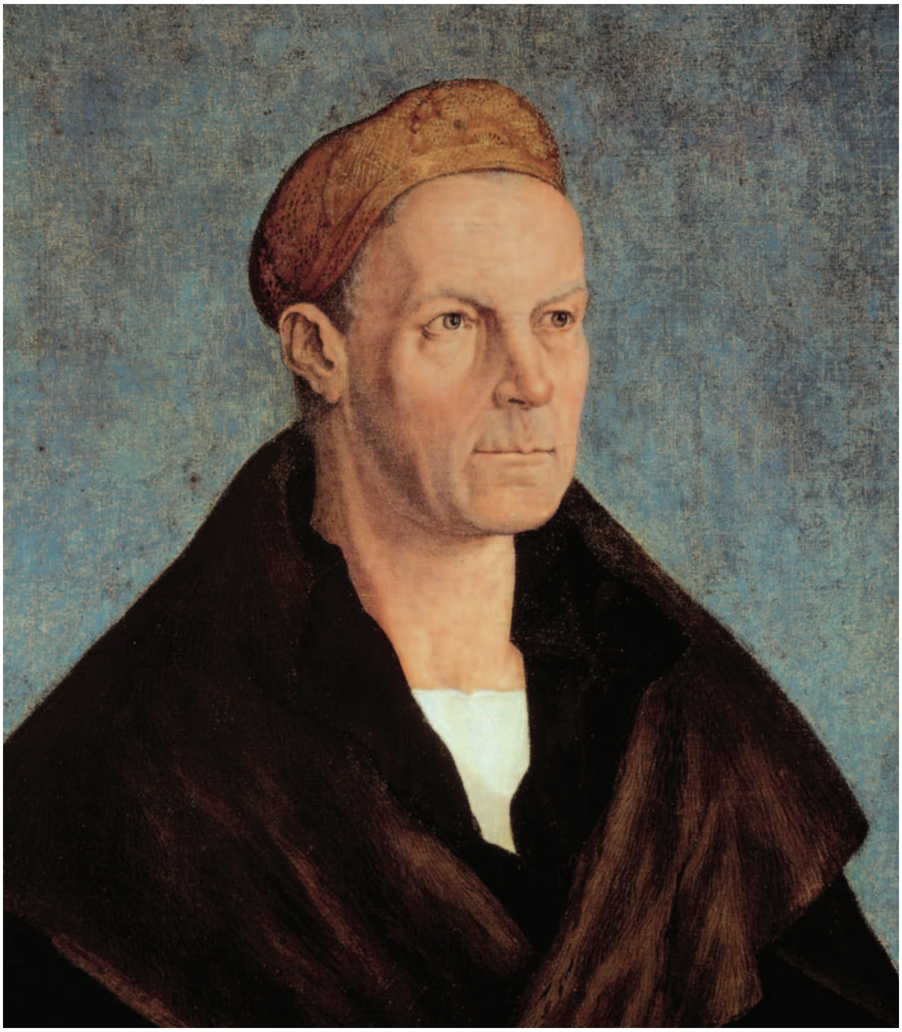
FINANCIAL HISTORY

The magazine of the Museum of American Finance



The Richest Man Who Ever Lived

An Exception: Default on the Fourth Liberty Loan

Early Banking in Boston

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FINANCIAL HISTORY

THE MAGAZINE OF THE MUSEUM OF AMERICAN FINANCE

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MUSEUM OF AMERICAN FINANCE

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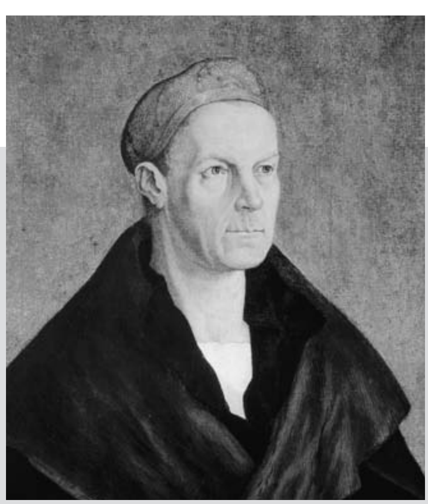
ON THE COVER

Portrait of Jacob Fugger, the Rich, by Albrecht Dürer, circa 1520. See article, page 20.



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A Worthwhile Investment: MoAF Membership

Message to Members

David J. Cowen | President and CEO

Membership in the Museum of American Finance continues to be the best deal in town, particularly for those members in the New York City area who are able to attend our day-time and evening programs. Since my last column, speakers have included Nobel Laureate Joseph Stiglitz, BlackRock Vice Chairman Barbara Novick, Greenwich Associates founder Charles Ellis, noted historian and author Thomas Fleming, former CFA Institute President/CEO John Rogers and RBC Wealth Management CEO John Taft, to name a few. This fall, we are planning events with Nobel Laureate Robert Shiller, NYSE President Tom Farley, best-selling author Bethany McLean and many others. In addition to free access to most of our events, Museum members receive unlimited free admission to the exhibits, a subscription to *Financial History* magazine and discounts in the Museum Shop. And our members can feel good that they are supporting the Museum's mission to preserve, exhibit and teach about American finance and financial history.

Also this fall, the Museum will host the fifth annual Wall Street Collectors Bourse and Auction, which will be held from October 22–24. The Museum will be open free to the public throughout the event, and for the first time the show will take place on the Grand Mezzanine exhibit floor. With the "America in Circulation" exhibit featuring the collection of Mark Shenkman now open, visitors will be able to see an historic bank note and then visit a dealer booth to inquire about the possibility of purchasing it.

Our "Worth Its Weight: Gold from the Ground Up" exhibit will open on November 19. The curatorial team — led by Maura Ferguson, Sarah Buonacore and Kristin Aguilera — has been busy borrowing incredible objects from other museums, institutions and private collections around the country. Object highlights include a Gemini space helmet with a gold visor; gold from historic rushes including California, Alaska, Georgia and North Carolina; examples of medical uses of gold; and more than a dozen unique gold and jewel encrusted versions of everyday objects created by artist and jeweler Sidney Mobell. Among these objects will be a solid gold cell phone, domino set and mousetrap, which are part of the collection of the Smithsonian National Museum of Natural History, as well as several objects from Sidney's personal collection.

Sidney has been a friend of mine since his solid gold and jewel encrusted Monopoly set first came to our Museum in 2010. He followed closely as the vision for this exhibit developed, and I am happy to acknowledge his generosity as a lead exhibit sponsor, along with his close friend and Apple Inc. co-founder, Steve Wozniak.

We continue to honor the legacy of Alexander Hamilton, and on July 10 we joined with the Alexander Hamilton Awareness Society (AHA) in the annual wreath-laying ceremony at Hamilton's gravesite to commemorate the anniversary of his death (July 12, 1804). The following Monday, July 13, was a day of celebration, as the new Hamilton play opened on Broadway. I attended the opening night performance, along with our chairman, Richard Sylla, and founder and chairman *emeritus*, John Herzog. When Lin-Manuel Miranda came on stage and announced his name as Alexander Hamilton, the crowd cheered for nearly a minute. It was a truly memorable evening to commence what promises to be a long run on the Broadway stage. $

David Cowen with renowned jeweler and artist Sidney Mobell.

JUL 2 1890 The Sherman Anti-Trust Act becomes law and authorizes the US Department of Justice to break up giant monopolies.

JUL 27 1694 The Bank of England opens for business in London to print currency and manage the national debt.

Exhibit Preview: "Worth Its Weight: Gold from the Ground Up"

Since the earliest civilizations, people around the world have been fascinated by the sparkling metal they found flowing in mountain streams and mined from deep in the earth. We risk our lives to get it, we wear it on our bodies, we use it as money and we even bring it with us into outer space. The Museum's upcoming exhibit, "Worth Its Weight: Gold from the Ground Up," will captivate visitors with the many spectacular and unexpected ways gold has influenced our lives.

"Worth Its Weight" will be on view in three galleries, as well as the Museum's theater. The "Gold in America" section will feature three subject areas: Gold Rushes, Finance and Mining & Refining. By learning about these topics, visitors will understand how the story of gold is intimately intertwined with American history.

"The Many Faces of Gold" section will feature eight vignettes on the myriad uses for gold and its meaning around the world. We will not only discuss gold as a physical material, but also how the concept of "gold" has become a symbol of "the best." Topics for "The Many Faces of Gold" include Gold and the Body, Science & Technology, Religion, Design, World History, Entertainment & Pop Culture, Awards & Commemoration, and Branding & Marketing.

The most familiar relationship people have with gold is through jewelry and adornment. The "Jewelry Box" room will focus on the luxury and glamour of gold jewelry and décor, with several unique and stunning objects on loan from the Smithsonian Institution National Museum of Natural History and the Tiffany & Co. Collection.

The "Midas Touch" room will feature the creations of renowned jeweler Sidney Mobell, a modern day Midas who transforms everyday items into dazzling gold and jeweled artworks, challenging the relationship between the mundane and the luxurious.

"Worth Its Weight" is sponsored by Steve Wozniak and Sidney Mobell, with additional support from Van Eck Gold Funds and IPMI. It will be on view from November 19, 2015 through December 2016. $

Collection of the National Postal Museum, Smithsonian Institution

Copyright Tiffany & Co. Archives 2015

Above: Gold locket presented to John Clum for his service to the US Post Office, 1911. Clum established the Alaskan postal system during the Klondike Gold Rush.
Left: Gold, pearl and diamond matching jewelry suite by Tiffany & Co., 1940–41.

JUL 31 1914 With war raging in Europe, the NYSE closes for four and a half months to allow the chaotic market to settle.

AUG 1 1789 The Tariff Act of 1789 goes into effect. Its purpose is to raise revenues on the importation of foreign goods and encourage domestic production of goods.

MUSEUM OF AMERICAN FINANCE BENEFACTORS ($1,000 AND ABOVE)

The Museum is most grateful for the financial support of these major donors in the past year to help advance our commitment to preserving, exhibiting and teaching the power and value of American finance.

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► For information about the Museum's benefactor program, please contact Mindy S. Ross at 646-833-2755 or mross@moaf.org.

AUG 11 1948 President Harry S. Truman announces the authorization of a $65 million interest-free loan to the United Nations to build its New York City headquarters.

AUG 24 1814 The British burn down the main Treasury Building in Washington, DC.

Museum Spotlight: Claude Pompilus, Security Guard

A HIGH SCHOOL GRADUATION is a big event for any student, but even more so when it is 20 years in the making. Claude Pompilus, security guard at the Museum since 2011, received his HSE (formally known as a GED) on June 25. Claude's graduation also marked his completion of a college prep program, as he plans to attend college to pursue a degree in education.

"I would love to teach middle school or high school," Claude said. "I have a soft spot for teachers because they have to deal with the personal aspects of life that kids bring into the classroom."

The personal challenges that many students face while pursuing their education are near and dear to Claude's heart. As a student athlete who loved school and played football, he had to make the difficult decision to leave high school at the age of 16 to begin working to support himself and his three younger siblings when his mother became too ill to work. He became an iron worker and welder, working for a company that made such items as security doors and window guards.

Over the years, Claude worked as a school bus driver and tutored children in math, reading and social studies in his free time. Immediately prior to joining the Museum, he worked as a security guard at two other museums in Lower Manhattan: the Skyscraper Museum and the 9/11 Tribute Center.

Claude — a self-professed history buff — said his favorite aspects of working at the Museum are the exposure to history through the exhibits and the professionals who work at the Museum.

"Being around educated people all day is motivating and inspiring," he said. "The support and encouragement I have received from the Museum staff, in addition to my family, while I pursued my diploma have been incredible."

Today, Claude is the father of four children — two boys and two girls — between the ages of 6–13. All of them are honor roll students who are rooting for their dad as he finally has the opportunity to pursue his own academic dreams. It would be hard to find a better role model for them. $

MU$EUM OF AMERICAN FINANCE

UPCOMING EVENTS

Sep 15	Lunch and Learn Series: Bethany McLean on *Shaky Ground: The Strange Saga of the Mortgage Giants.* Talk followed by Q&A and book signing. 12:30 – 1:30 p.m.
Oct 8	Evening Lecture Series: Nobel Laureate Robert Shiller on *Phishing for Phools: The Economics of Manipulation and Deception*. Presentation followed by Q&A and reception. 5:30 – 7:00 p.m.
Oct 22–24	5th Annual Wall Street Collectors Bourse. Auction at 10:30 a.m. on October 24.
Oct 22	Thomas Tesoriero on "The 12 Caesars on Gold Coins." Talk followed by Q&A. 2:00 – 3:00 p.m.
Oct 23	Joel Iskowitz on "US Gold Congressional Medals: An Artist's Perspective." Talk followed by Q&A. 2:00 – 3:00 p.m.
Oct 28	Evening Lecture Series: "IPO: Going Public" panel discussion followed by Q&A and reception. 5:30 – 7:30 p.m.
Nov 3	Lunch and Learn Series: *Wall Street Journal* columnist Jason Zweig on *The Devil's Financial Dictionary*. Talk followed by Q&A and book signing. 12:30 – 1:30 p.m.
Nov 11	Berkshire Hathaway 50th Anniversary Symposium. 8:00 a.m. – 2:30 p.m.

All events are held at the Museum (48 Wall Street, NYC) unless otherwise noted.
For more information or to register online, visit www.moaf.org/events.

AUG 26 1842 The Treasury Department establishes its fiscal year as July 1 through June 30.

SEP 2 1789 The US Treasury is founded to deal with the new nation's Revolutionary War debt.

SEP 5 1882 The first Labor Day is created to acknowledge the labor of the nation's workers.

Museum and NYSSA to Host Symposium in Honor of Berkshire Hathaway's 50th Anniversary

When Warren Buffett took control of Berkshire Hathaway Inc. in 1965, it was a small textile company. Through a combination of value investing, exceptional management and savvy acquisitions, Buffett has transformed the firm into one of the most profitable, successful and highly-emulated corporations in American history.

On Wednesday, November 11, the Museum of American Finance and the New York Society of Security Analysts (NYSSA) will co-present a full-day symposium commemorating the 50th anniversary of Berkshire Hathaway. The event will be held at the Museum and will feature three panels of prestigious speakers, as well as two keynote addresses.

Featured participants include some of the nation's most prominent value investors and Berkshire Hathaway shareholders, such as Seth Klarman, Bill Ackman and Tom Gayner. Byron Trott, best known for his role as Buffett's investment banker, will open the program with the morning keynote address. Renowned scholar and author Lawrence Cunningham, who has been the editor and publisher of *The Essays of Warren Buffett* since 1996, will deliver the afternoon keynote to close the program.

Members of the Museum and NYSSA will receive discounted admission to the conference. For more information, including a full list of participants, please visit www.moaf.org/events. $

SEP 24 1974 John C. Bogle incorporates the Vanguard Group of Investment Cos. to administer the Vanguard family of mutual funds.

SEP 29 1952 The New York Stock Exchange ends the practice of a half-day of trading on Saturday mornings.

How Hen Fever Led to the Chicken of Tomorrow (Part 1: Hen Fever)

By Brian Grinder and Dan Cooper

G.P. BURNHAM, ESQ.— DEAR SIR: Send me ten trios more of the Cochin-China chickens, immediately. If you can put them down to $35 the trio, now, it will leave me a better margin. All the others are sold, at $60 the trio. Enclosed is draft on Bank of Commerce, Boston, for $400.

The greater fool theory, according to Burton Malkiel, states that "any price will do as long as others may be willing to pay more." The theory is in operation at all times, but it is especially evident during speculative bubbles. The individual who wrote the letter on the right to George Burnham in the mid-19th century was only too happy to take advantage of the theory. However, the problem with this theory is that there are only a finite number of fools. When there are no more fools to take advantage of, the bubble bursts and chaos reigns supreme.

We are well aware of the various financial market bubbles that have occurred throughout history, but speculative bubbles do not confine themselves to Wall Street. In a 1926 article entitled "Agricultural Crazes: A Neglected Chapter in American Economic History," Harvard economist Arthur H. Cole contended that antebellum agriculture in the United States was "particularly susceptible to orgies of speculation when a strange plant or animal was first brought to attention here." According to Cole, there were pre-Civil War speculative bubbles in Marino sheep, Chinese mulberry trees, Berkshire hogs and Asian chickens. Cole notes that "hen fever" ravaged the country from 1850 to about 1855 and "exhibited a virulence hardly equaled" by any of the other agricultural crazes he described.

It all began in 1842 when the notorious Captain Edward Belcher returned to Britain from an Asian expedition on the *HMS Sulphur* with a gift for Queen Victoria that would change gastronomical history. The five hens and two roosters that arrived at Windsor Palace were like nothing the British had ever seen. Known as Cochin-China or Shanghai chickens, these birds were much larger and calmer than the typical English fowl. Victoria and her husband Albert constructed an aviary for the birds and began raising the strange new creatures. The public soon became fascinated with these exotic chickens, and demand for them began to grow.

"The Fancy," as the mania was described at the time, really took off when, according to poultry expert Walter Dickson, "A pair [of Chochin-China fowls] which were sent by Her Majesty for exhibition at the Dublin Cattle Show, in April 1846, created such a sensation, from their immense size and weight…that everyone was desirous to possess the breed, and enormous prices were given for the eggs and chickens. The size of some of these fowls bred in Ireland is said to have been equal to that of turkeys… The hens were also said to lay five eggs in two days…"

Dickson, who rightly suspected that such claims were exaggerated, also noted the generosity of Queen Victoria and Albert, who freely distributed eggs "with that gracious kindness for which [they] are so celebrated."

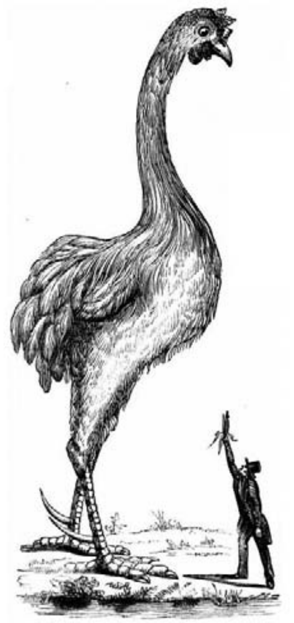
In his masterful book, *Why Did the Chicken Cross the World?*, Andrew Lawler documents the prices commanded by these exotic birds. He notes that in 1849, a vendor at the second agricultural show in Birmingham "sold 120 birds for the equivalent of $50,000 today." In London, Cochin-China fowl sold "for the equivalent of $2,500 apiece." At the London Poultry Exhibition of 1852, "the equivalent of $2,000 was paid for a pair of Cochins" on a day when over $80,000 was spent on fancy breeds of chicken.

The first symptoms of hen fever in the United States began in the summer of 1849 in the Massachusetts home of George Burnham, whom Lawler describes as a "gentleman scoundrel, newspaperman and poultry breeder." Burnham purchased six Cochin-China chickens for $90 in 1849 and became a major player in the frenzy that followed. He sold birds for "unheard of prices" at Boston's first poultry exhibit, where a single pair of chickens sold for $13, which was then the going price for "two barrels of good wheat flour."

In 1850 he sold Cochin-China eggs for a dollar each, sold pairs of chickens for $25 a pair and regretted that he "did not charge $50 a pair." The price per pair soon rose to $100 with reports of a single pair of Cochin-China fowl being sold for $700. After sending some of his stock as a gift to Queen Victoria, Burnham's public relations stunt allowed him to command $150 for each pair of his birds.

The fever also struck notables such as Daniel Webster and P.T. Barnum, who held a poultry exhibit at his New York museum in February of 1854. It also inspired Herman Melville to write a satirical short story about the fever entitled, "Cock-A-Doodle-Doo." But the bubble would soon burst and leave many broken and dispirited speculators in its wake.

Lawler argues that the decade of speculation laid "the foundation for the modern chicken." Today's most prominent breeds can trace their heritage directly back to the exotic birds that fueled the hen fever in the 1840s and '50s. The Plymouth Rock, for instance, is a cross between Cochins and English Dorkings or Cochins and



PORTRAIT OF THE "COCHIN-CHINA" FOWL!

Illustrations from *The History of Hen Fever: A Humorous Record,* published in 1855.

Dominques, while Rhode Island Reds are a cross between Leghorns and the Asian varieties of chicken that were so popular during the hen fever.

For centuries chicken was an expensive meal, but as Lawler notes, "Real farmers — that is, men — raised sheep and cattle." Every farm had chickens, which were kept primarily for egg production and were tended to primarily by women. When a hen got too old to produce eggs, it was butchered and served for dinner, but no one raised chickens primarily for meat.

The commercial broiler business began by accident, according to University of Delaware extension agent J. Franklin Gordy, when Celia Steele of Delaware ordered 50 chicks in 1923 with the intention of maintaining her "small flock of layers." When the hatchery mistakenly sent her 500 chicks, Mrs. Steele chose to raise the extra chicks instead of returning them to the hatchery. When they matured, she sold the 397 surviving birds to a local buyer for a tidy profit, then turned around and ordered 1,000 more chicks for the next season. Thus a profitable new industry was born.

In spite of this, chicken still played a secondary role to beef and pork. "For 200 years," wrote historian Roger Horowitz, "Americans considered chicken a luxury meal served only on special occasions." Moreover, prior to the 1940s, both egg production and meat production were seasonal.

"Fluffy little chicks and Easter both come in the Spring," wrote A.C. Monahan in the April 20, 1946 *Science Newsletter*. "Easter," he continued, "is at the height of the natural hatching season. It is also at the height of the normal laying days, which perhaps accounts in part for the heavy use of eggs at Easter for Sunday morning breakfast, customary in some sections, and for the Easter Monday egg-rolling. But the association is, perhaps, diminishing. Agricultural scientists seem never content with nature's ways and are producing fluffy little chicks at all seasons of the year so frying chickens will always be obtainable. They are producing hens that lay the year-around, eight-pound apartment-house turkeys, and broad-breasted poultry with more white meat. Fluffy little chicks…will grow into hens that lay 300 or more eggs a year."

Science and technology were about to change the American diet in a fundamental way as natural production seasons gave way to factory farming. Chicken, as meat, was in the ascendancy. Much of this change was spurred by the "Chicken of Tomorrow" contest, which was first held in 1948 and sponsored by the Great Atlantic & Pacific Tea Company (A&P) grocery chain. We will take a closer look at this contest and its ramifications in the next issue of *Financial History*.

The greater fool theory often wreaks havoc on those who choose to act on it, but it can also offer new opportunities to those who are willing to see beyond the immediate carnage of speculation run amok. The 19th century hen fever sowed the seeds of a new and important food source by providing the opportunity to breed larger, meatier chickens. Today chicken is abundant and inexpensive, but the methods used to raise the modern chicken are increasingly being questioned. $

Brian Grinder is a professor at Eastern Washington University and a member of Financial History*'s editorial board. Dr. Dan Cooper is the president of Active Learning Technologies.*

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Banking in Boston

AN EARLY HISTORY

By David Grayson Allen

Illustration of State Street in Boston, circa 1840.

Commercial banks were not a part of the Boston scene until after the Revolutionary War. The Massachusetts General Court did not incorporate for another two years the first local bank, which was called the Massachusetts Bank, with authority to hold "£50,000 and no more, in lands, rents and tenements, and £500,000 and no more, in money, goods, chattels and effects [which] it was permitted to sell, grant and devise, alien or dispose of." Furthermore, the Massachusetts Bank could carry on any form of banking or mercantile business it might find desirable. The beginning of banking in Boston came at a critical time because, as one account has suggested, in 1790, about one-fourth of the US population was "directly dependent upon Boston as their financial and commercial capital," and a part of the financial strength and stability of the region was due to the banking system, which would continue to develop throughout the 19th century.

Further amendments to the Massachusetts Bank's charter included protection of bank stockholders from the malfeasance of its officers and employees, and a prohibition on the bank's making loans at rates in excess of 6%. The bank restricted loans to $3,000 for an individual. No one was allowed to owe the bank more than $5,000 at any one time or be liable as a promiser or endorser of more than $7,500. Notes could not be renewed, and those who failed to meet the bank's deadline were obligated to sell them immediately and then denied the ability to have any notes discounted for a period of time, unless allowed to do so by a unanimous vote of the directors.

Despite such restrictions, the Massachusetts Bank quickly became "unduly profitable." By 1791, the bank's stock was returning 16% on its par value. Such results soon encouraged competition and the establishment of a rival, Union Bank, which was incorporated in 1792 with fixed capital of $1.2 million, or almost five times the amount of capital required when the Massachusetts Bank was incorporated. Between 1792 and 1815, as Boston changed from a shipping to a commercial economy, four other Boston banks were so chartered, including Boston Bank—later called "Old Boston" (1803), State Bank (1812), New England Bank (1813) and Manufacturers and Mechanics Bank—later Tremont

Bank (1814), with combined authorized capital in the six banks of $8,550,000.

During the same time frame, seven banks (plus the Bank of North America) were set up in Philadelphia, with a capitalization of $7,743,000; seven banks in New York City, with a total capitalization of $11,840,000; and eight banks in Baltimore, with a capitalization of $6,750,000. Boston was second only to New York City in capitalization for its banks, and rivaled the other Atlantic seaport communities in the number of its banks.

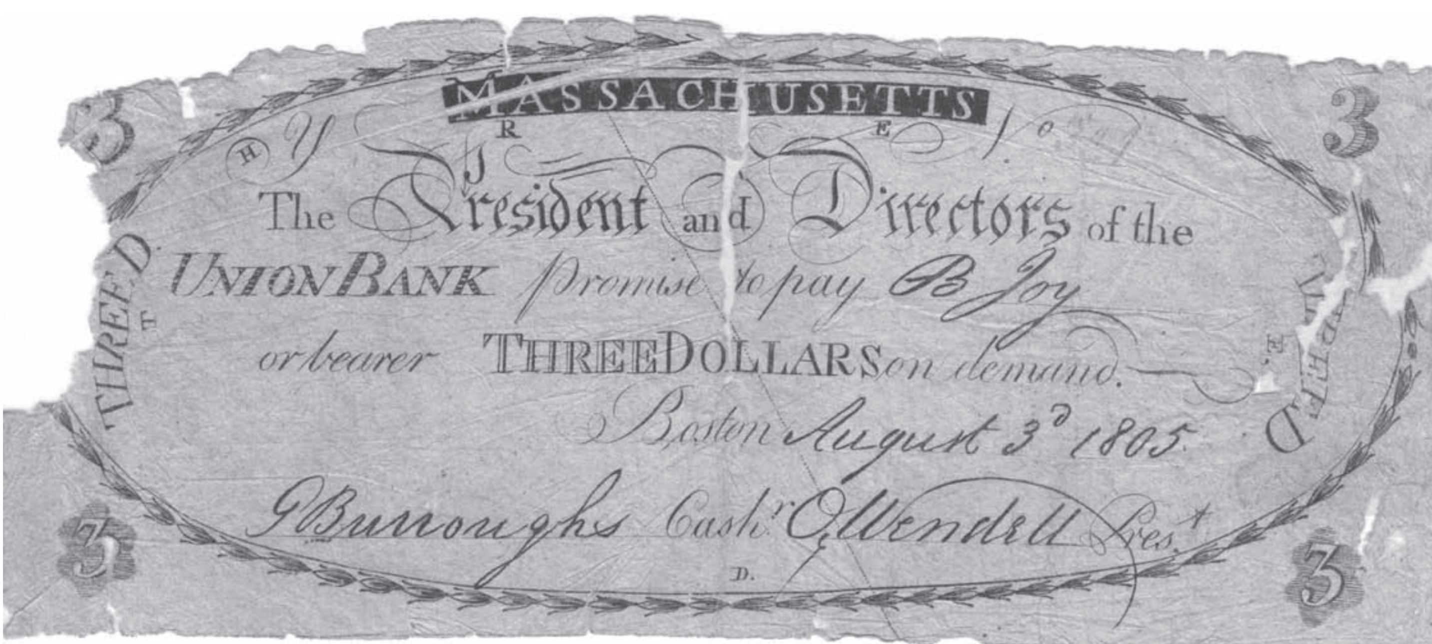
During the antebellum years, Boston banks also began to develop a reputation as conservative and stable institutions that maintained their bank notes at parity with specie. As one Boston bank president noted, "circulation based upon specie, and loans upon strictly mercantile paper, were two of the cardinal principles in the directors' system of banking." The US Constitution had made it illegal for states to print their own money, but privately-owned state banks could issue bank notes that were convertible to specie.

While the four Boston banks in 1813 had a substantial specie reserve — $4.5 million in specie to $1.5 million in circulating bank notes — it became apparent by the 1810s that the rising number of local banks in other parts of the country, even distant places in New England, were of questionable solvency, particularly in times of economic downturn or depression. By 1824, all Boston banks except one had banded together to form the "Suffolk System" under which they paid the Suffolk Bank a proportion of $300,000, based on their level of capitalization, to act as their agent for redeeming bills from outside banks by returning them to their place of origination for specie. The Suffolk System was the first of several private regulatory bodies that not only improved the efficiency of Boston banking but, importantly, also helped to instill a sense of public confidence in them.

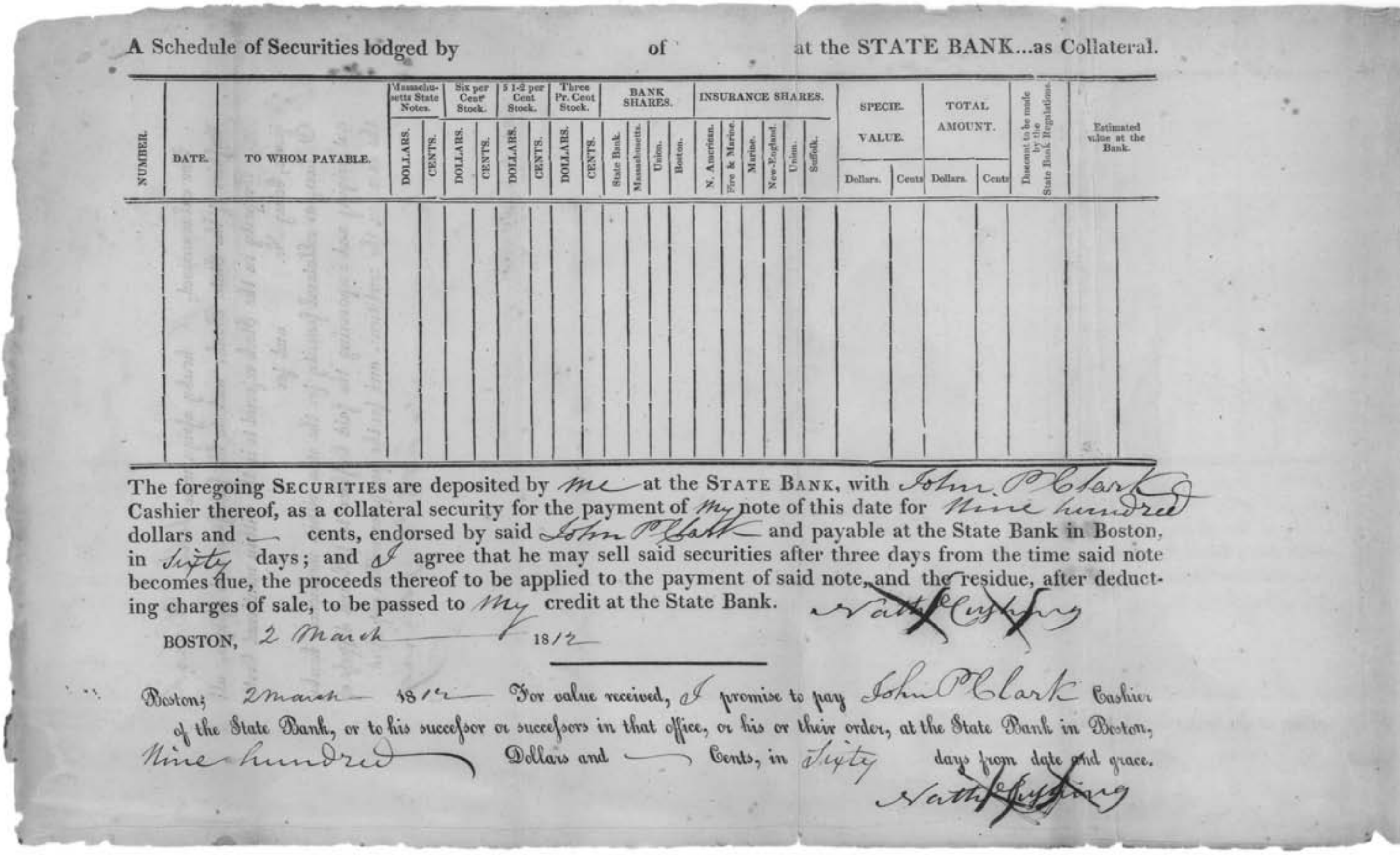
Soon the system was expanded to include drafts and notes from banks outside of Boston. Like foreign exchange markets, these outside participating banks were each required to deposit $2,000 in specie at the Suffolk Bank and sufficient additional specie to redeem that bank's notes at par any that ended up in Boston. In both cases, participating banks received quick and reliable redemption of its notes, creating a higher level of stability, while Suffolk Bank paid no interest on those deposits, which it could lend to itself at no cost. By 1858, another organization, the Bank of Mutual Redemption, was created to serve as agent for the redemption of bills from all New England banks. Two years earlier, an additional improvement to make the exchange of banks' bills and checks more efficient was developed with the establishment of the Boston Clearing House, which began operations on March 29, 1858. Previously, banks had made daily settlements with each bank separately. Under the new arrangement, all settlements were made through the clearing house. The new facility established a one-day record of exchanges amounting to $31,321,877, which "were settled within an hour and the balances within a short time afterwards." Boston had the second oldest clearing house after New York's, and Boston's soon expanded from servicing 29 to 55 Boston banks, and to 42 Boston area banks by the early 1890s. By 1893, only one bank associated with the clearing house had failed.

19th century banks, including those in Boston, were exposed to periodic depressions, often due to overextensions by banks, land speculation, and other factors. By 1837, Boston had 34 banks, while the number in Massachusetts outside of Boston numbered 95. Boston banks had $21,350,000 in capital, deposits of $6,560,000, and circulation of $4,386,414, compared with $16,930,000, $1,907,000 and $5,886,704, respectively, for out-of-Boston or "country" banks. During that year, the start of the longest and most serious depression in the 19th century, specie payments were suspended by Boston banks.

At the same time, those banks created an *ad hoc* organization, the Associated Banks of Boston, to help maintain public confidence in the banking system. Conditions at most Boston banks were serious but not life-threatening. At the Shawmut



Rare example of a $3 note from the Union Bank in Boston, dated August 3, 1805.



A Schedule of Securities lodged by of at the STATE BANK...as Collateral.

NUMBER	DATE.	TO WHOM PAYABLE.	Massachusetts State Notes.		Six per Cent Stock.		5 1-2 per Cent Stock.		Three Pr. Cent Stock.		BANK SHARES.				INSURANCE SHARES.						SPECIE. VALUE.		TOTAL AMOUNT.		Discount to be made by the State Bank Regulations.	Estimated value at the Bank.
			DOLLARS.	CENTS.	DOLLARS.	CENTS.	DOLLARS.	CENTS.	DOLLARS.	CENTS.	State Bank.	Massachusetts.	Union.	Boston.	N. American.	Fire & Marine.	Marine.	New-England.	Union.	Suffolk.	Dollars.	Cents	Dollars.	Cents		

The foregoing SECURITIES are deposited by me at the STATE BANK, with John P Clark Cashier thereof, as a collateral security for the payment of my note of this date for Nine hundred dollars and — cents, endorsed by said John P Clark and payable at the State Bank in Boston, in Sixty days; and I agree that he may sell said securities after three days from the time said note becomes due, the proceeds thereof to be applied to the payment of said note, and the residue, after deducting charges of sale, to be passed to my credit at the State Bank. Nath Cushing

BOSTON, 2 March 1812

Boston; 2 March 1812 For value received, I promise to pay John P Clark Cashier of the State Bank, or to his successor or successors in that office, or his or their order, at the State Bank in Boston, Nine hundred Dollars and — Cents, in Sixty days from date and grace. Nath Cushing

Collection of the Museum of American Finance

Blank schedule of securities from the State Bank, Boston, 1812.

Bank, for instance, assets declined by 25% to $660,000 during the first four months of the panic, barely allowing the institution enough to cover its operating expenses and pay a small dividend. While many carried on their business, over a dozen Boston banks failed or had their charters revoked, many of them having been created in better times only a few years before the panic.

One of the reforms of the period was increased regulation by the commonwealth, which created a Board of Bank Commissioners to help examine bank records and prevent bad bank practices while protecting depositors and holders of the banks' notes. By the Panic of 1857, banks performed much better; specie was suspended for only two months and no Boston bank failed. Under the National Bank Law, enacted during the Civil War in 1863, every bank in Boston was encouraged to become (upon pain of a new tax on state bank notes) a national bank, with "national" in its name, by 1865.

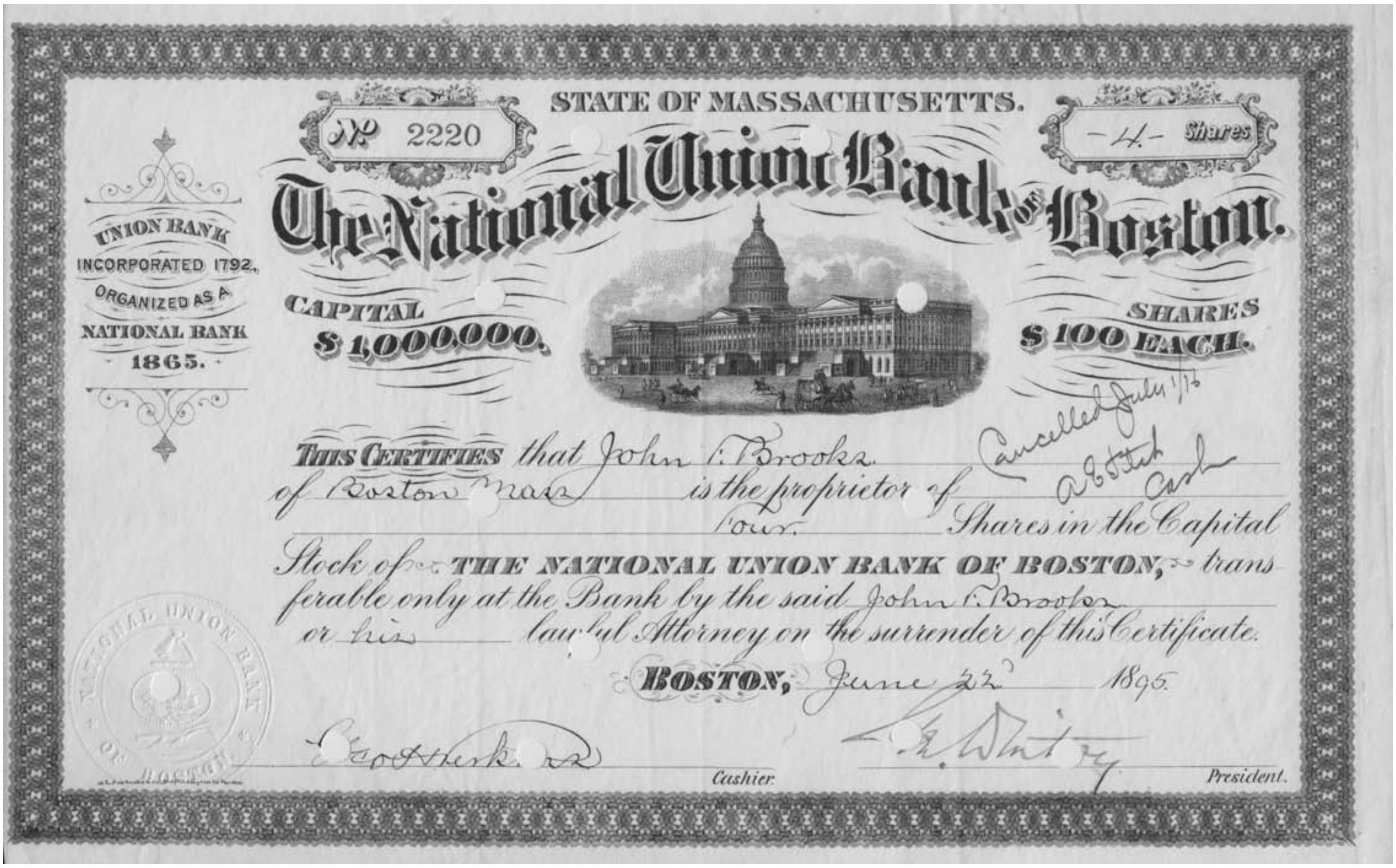
Boston banks continued to do well during the Panic of 1873, difficulties in the mid-1880s, the depression of the early 1890s, and even the Panic of 1907, "which carried down numerous large New York banking institutions." During the 1884 panic, "Boston banks were in such a strong position when the storm broke that they passed through the crisis without recourse to clearing house certificates, whereas the New York banks were forced to issue them," Frederic H. Curtiss, Boston bank official and later chairman of the Boston Federal Reserve Bank, recalled.

"In fact," he continued, "the Boston banks were little affected, their general business being transacted on a more conservative basis and careful preparation having been made in anticipation of financial trouble, which had for months appeared inevitable."

During the 1890s, the effects of the economic decline were relatively minimal in Boston. There were brief suspensions of specie but little more. Nevertheless, Boston banks did have by the 1890s one somewhat hidden difficulty, which had originated almost two decades earlier — a growing inability to invest their money locally and an increasing need to find more speculative loans elsewhere. As bank dividends and stock prices declined, it became more and more obvious by the end of the 1890s that Boston banks would need to be consolidated, a process that continued during the first three decades of the 20th century.

Savings Banks

Boston's first savings bank, sometimes called a mutual savings bank, was the Provident Institution for Savings in the Town of Boston. It was chartered by the Massachusetts legislature in December 1816 and opened its doors in February 1817. Although it was the first incorporated savings bank in the United States, the Philadelphia Savings Fund Association actually began business in November 1816. Other major 19th century Boston savings banks included the Institution for Savings in Roxbury (1825), Warren Institution for Savings (1829), Suffolk Savings Bank for Seamen and Others (formerly the Saving Bank for Seamen in Boston, 1833), East Boston Savings Bank (1848), Boston Five



Collection of the Museum of American Finance

Stock certificate for four shares of The National Union Bank of Boston issued to John Brooks on June 22, 1895.
The black and white certificate features an engraving of the state capitol.

Cents Savings Bank (1854), Charlestown Five Cents Savings Bank (1854), Franklin Savings Bank (1861), Brighton Five Cents Savings Bank (1861), South Boston Savings Bank (1863), Eliot Five Cents Savings Bank (1864), Boston Penny Savings Bank (1864), Home Savings Bank (1869), North End Savings Bank (1870) and the Wildey Savings Bank (1892), many of them surviving until relatively recent times.

The idea of savings banks became so popular that by 1892, there were 184 savings banks and institutions for savings in the commonwealth, with combined assets of $416 million, and 16 such banks in Boston, with combined assets of over $125 million at that time. Like these and other early savings banks, the Provident was set up to help the less fortunate members of Boston society, the "frugal poor," to save their money rather than wastefully spend it.

In addition, and unlike Boston commercial banks, customers received regular dividends on their accounts. In many ways, this type of banking was an outgrowth of mutual benefit societies, part of a movement that transformed New England charity from the 1780s through the 1820s.

While inspired by charitable impulses to become "the Interest Bankers for the poor," and with its first advertising broadside focused on "seamen bound on a voyage" as the kind of customers it sought, the founders nevertheless opened the Provident to all Bostonians on the theory that such a policy would help to provide the confidence needed to build the institution. This open door led to almost immediate success among all classes of Boston society, but soon forced the founders to impose various limitations on wealthier depositors to dampen their interest in the bank.

Among other restrictions was a weekly limit on the size of deposits that customers could make, while another cut off the payment of dividends to balances of more than $500. The latter reservation was meant to encourage wealthier depositors to find other alternatives — to place their savings in the Massachusetts Hospital Life Insurance Company or "The Big Savings Bank," as it was sometimes called. The Provident originally paid dividends of 5%, which was soon reduced to 4%, on money in the depositor's account, an amount it believed it could maintain even in a challenging economic climate, while the remainder of the bank's earnings was parceled out to depositors whose accounts were over a year old in a distribution made every five years. While the extra dividend fluctuated with the times, it averaged about 6%. Those earnings increased rapidly from the early 1840s, when the Provident shifted its investment portfolio from short-term commercial bank loans with low earnings to highly profitable long-term loans to industry, which were given to individuals backed by personal security.

This shift in investment policy was the product of the bank's more professional approach to investments and change in investment vehicles. By 1820, the bank had established a subcommittee, a "board of investment," which implemented the broader investment objectives of the bank's board of trustees. The investment subcommittee consisted of three trustees — vice president, president and secretary — and it was enlarged in the mid-1830s with three more trustees. » *continued on page 38*

Courtesy of the Center for Western Studies

The Sixth Dakota

By Robert E. Wright

Standard maps clearly show two Dakotas, North and South, nestled snuggly betwixt Minnesota and Iowa on the east, Montana and Wyoming on the west, Manitoba and Saskatchewan to the north and Nebraska to the south. But in terms of political economy, it is more accurate to think about six Dakotas: North and South, East and West, and Euroamerican and Native. Many Americans consider the Dakotas mere "flyover country," an inconvenience when jetting between Boston and Seattle, but otherwise safely ignored. Careful analysis of the six Dakotas, however, can help us to better understand the national economy's potential, as well as its limitations. Understanding the sixth Dakota, the Indian one, is perhaps most important of all.

North Dakota is the emerging fossil fuel energy giant, the offspring of new "fracking" technology and (sometimes) high oil prices. South Dakota, by contrast, has hardly any energy deposits at all. Its Black Hills were once filled with gold (now mostly mined) and other heavy metals and hard rocks (such as amblygonite, bentonite, lepidolite, tungsten and uranium). The Minneapolis Federal Reserve confirms what every South Dakotan knows: that the Mount Rushmore state receives no direct benefit from the Bakken oil fields. They are simply too far away (the Northern Plains are even more vast than they are flat), and of course South Dakota cannot tax energy companies operating in North Dakota.

Despite a dearth of fossil fuels, South Dakota's economy does not lag far behind that of its northern neighbor. Per capita income in North Dakota is higher than in South Dakota, but its lead is largely eaten up by the astronomical cost of living in its boom towns. In February 2014, the Associated Press reported that rents in the town of Williston, North Dakota, far exceeded those in New York City and Los Angeles. For example, 700 square foot, one bedroom apartments rented for $2,400 in Williston, compared to about $1,500 in New York and Boston and about $1,400 in L.A. South Dakota's per capita income, by contrast, is above the national average, but its cost of living is below it.

In March 2015, North Dakota's unemployment rate was 3.1%, the second lowest in the country, and South Dakota's was not far behind, the nation's fourth lowest at just 3.5%. If energy prices remain low, though, North Dakota's unemployment rate will continue to increase (it was up .4 from March 2014), but South Dakota's will probably remain about the same (it was unchanged from March 2014) despite an increase in the state's minimum wage in January 2015. That is because South Dakota's economy is based on entrepreneurship.

Agriculture remains relatively important to the state but still represents only 7% of GDP. Farmers and ranchers, at least those who want to stay in business, are consummate innovators. Agricultural processing, construction, finance, healthcare, higher education, light manufacturing, trade (retail and wholesale) and tourism

Test inflation of a balloon at Raven Industries in Sioux Falls, South Dakota, 1963.

Courtesy of the Center for Western Studies

Quillwork by Flossie Bear Robe is an example of reservation-based entrepreneurship, in this case at the Pine Ridge Reservation.

are other hotspots of innovation in the Land of Infinite Variety (one of South Dakota's most apt nicknames). If one or more of those industries suffers, entrepreneurs quickly shift focus and resources and the economy glides forward, the steady tortoise to North Dakota's haughty hare.

The lesson for the nation is that economic freedom works. South Dakota has so many entrepreneurs because the cost of doing business (such as taxes and regulations) is relatively low, while public infrastructure is adequate. State and local governments are relatively efficient because the state's residents make their elected officials accountable. They even hail their governors and US Senators by their first names and expect them to do their jobs, which at the state level means keeping government efficient and at the federal level means getting as many resources for South Dakota as possible.

Moreover, entrepreneurship is to some degree self-perpetuating. The denser the population of entrepreneurs, be they replicative ones merely selling an existing product in a new market, innovative ones selling new products or extractive ones stealing from others (sometimes by engaging in legal rent-seeking activities), the easier it is for those around them, including family, friends and neighbors, to strike off on their own. Most of their ventures will fail, just as Thomas Fawick's "Fawick Flyer," an early automobile produced in South Dakota, did. A few, however, will succeed and drive employment and economic growth for years or decades.

South Dakotan success stories include ethanol producer POET (which wants ethanol subsidies to end because they are propping up inefficient competitors), electronic signage manufacturer Daktronics, high-performance balloon manufacturer Raven and used musical instrument retailer Taylor Music, among many others. All from a state with a population less than that of Erie County, New York (Buffalo and its suburbs).

Of course, South Dakota is many times the physical size of Erie County, which suggests the importance of geography in any discussion of real world economies. The third and fourth Dakotas are "East River" and "West River," terms regularly used by Dakotans to differentiate between the more humid, farming areas east of the Missouri River and the drier, ranching areas west of it. East River is more densely populated than West River and physically,

culturally and politically more like the Midwest than the West. Its denizens tend to be somewhat more liberal than those of West River, who are truly remote from major population centers and all but local governmental authority and, hence, often more conservative in outlook.

Both sides of the Missouri River have climates that turn frigid in winter, but the climate west of the river — especially in the Black Hills and Badlands — is much more volatile and unpredictable than the climate to the east. Temperatures can reach the 70s in January in the west, in the same year and place where blizzards strike in May and September. Droughts are also much more common west of the river. In fact, the Dakota Territory was split north and south, instead of east and west, because it was thought that West River could not survive on its own. Its more extraction-based economy (cattle, gold and now oil) has indeed proven more highly volatile than that East River.

That the Dakota Territory was split into two instead of remaining united was partly a function of partisan calculation. Republicans believed they would dominate the politics of both states and wanted to add four US Senators instead of just two. As a practical matter, it was difficult to travel between the southern and northern parts of the territory because most of the railroads ran east and west. Today, the two states are connected to each other primarily via I-29, which is so far East River that it is almost in Minnesota. No direct commercial flights link the two states.

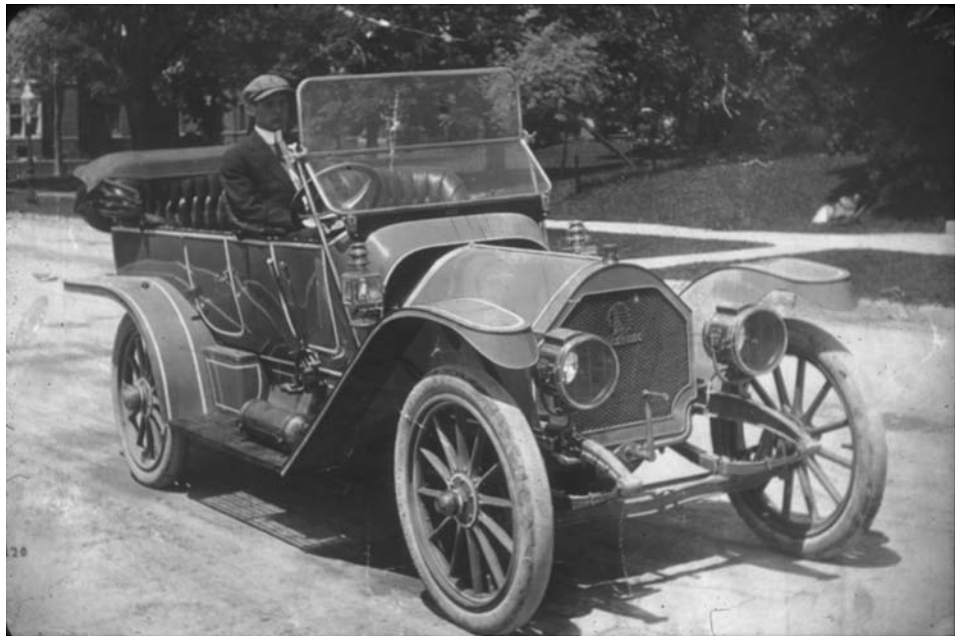
For all their differences, the first four Dakotas (North, South, East and West) are twins compared to the stark contrast between the final two Dakotas, Euroamerican and Native. Six of the poorest seven counties in the United States are located in North and South Dakota, and five of those are in the latter. Those counties are associated with Indian Reservations where unemployment rates can exceed 75%. It is easy for Euroamericans to dismiss these vast discrepancies. Racists and ethnocentrists blame Indians' genes or culture. Conservatives see laziness, while liberals see victims of 19th century land grabs and massacres. The real problem is that Indians live under a very different set of rules that rob them of their economic freedom.

Native Americans suffered many injustices in the past to be sure, but so have many other groups that have rebounded and thrived (Asians, Catholics, Irish, Jews and Mormons, to name a few of the better-known examples). Indians, by contrast, continue to face an autocratic government in Washington that does not respect their property rights and that forces substandard education and healthcare on them. Tribal lands were seized in the 18th and 19th centuries, but what hurt living individuals was the good Missouri bottom lands flooded by the Pick-Sloan dam projects after World War II.

Allotment and other land policies forced on Indian tribes created problems in the 19th century that not only persist to this day but have grown more virulent. One — called checker boarding — left tribes without jurisdiction over plots within their own reservations. Another — called fractionation — means that most private real estate in the hands of Indians is owned by scores, hundreds or even thousands of individuals, a situation that effectively renders the land inert and incapable of improvement, much like land in the less developed countries described by Hernando de Soto in his 2000 book, *The Mystery of Capital*.

The Sixth Dakota is not bereft of entrepreneurship; far from it. One problem is that much of it fails or founders because it is too far away from major markets. Such was the fate of South Dakota's Indian casinos, which also came under competition from Euroamerican entrepreneurs in Deadwood and numerous electronic casinos. A bigger problem is that native entrepreneurship typically remains nano-sized — for example, a sole proprietor with occasional help from family or friends — because Indian entrepreneurs find it difficult to obtain financing, customers, help with legal and tax paperwork, or all three.

Latent Native American entrepreneurship could be unleashed by fairly obvious policy reforms that would basically respect Indians' lives, property and liberty (economic freedom). Bringing equal economic freedom to all Americans would increase good forms of entrepreneurship, the kinds that create jobs and increase efficiency, decrease the social costs associated with crime and poverty and bring more balance to income and wealth distributions. $



Courtesy of the Center for Western Studies

Rush Brown of the Brown Drug Company drives his Fawick Flyer. Brown's company was a major wholesaler of drug supplies, and Thomas Fawick was the creator of the Flyer, the first four door automobile made in the United States.

Robert E. Wright is the Nef Family Chair of Political Economy at Augustana College, SD, where he has taught courses in business, economics, government and history since 2009. He is the co-author or co-editor of more than 20 books, including most recently Genealogy of American Finance *(2015),* Corporation Nation *(2014),* Guide to US Economic Policy *(2014) and* Little Business on the Prairie *(2015), from which this article is adapted.*

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The Richest Man Who Ever Lived

By Greg Steinmetz

On a spring day in 1523, Jacob Fugger, a banker from the German city of Augsburg, summoned a scribe and dictated a collection notice. A customer was behind on a loan payment. After years of leniency, Fugger had finally lost patience.

Fugger wrote collection letters all the time. But the 1523 letter was remarkable because he addressed it not to a struggling fur trader or a cash-strapped spice importer but to Charles V, the most powerful man on earth. Charles had 81 titles, including Holy Roman emperor, king of Spain, king of Naples, king of Jerusalem, duke of Burgundy and lord of Asia and Africa. He ruled an empire that was the biggest since the days of ancient Rome, and would not be matched until the days of Napoleon and Hitler. It stretched across Europe and over the Atlantic to Mexico and Peru, thus becoming the first in history where the sun never set. When the pope defied Charles, he sacked Rome. When France fought him, he captured its king. The people regarded Charles as divine and tried to touch him for his supposed power to heal. "He is himself a living law and above all other law," said an imperial councilor. "His Majesty is as God on earth."

Fugger was the grandson of a peasant and a man Charles could have easily strapped to the rack for impertinence. So it must have surprised him that Fugger not only addressed him as an equal but furthered the affront by reminding him to whom he owed his success. "It is well known that without me your majesty might not have acquired the imperial crown," Fugger wrote. "You will order that

Statue of Jacob Fugger in Augsburg, Germany.

The Life and Times of Jacob Fugger

the money which I have paid out, together with the interest upon it, shall be reckoned up and paid without further delay."

People become rich by spotting opportunities, pioneering new technologies or besting opponents in negotiations. Fugger (rhymes with *cougar*) did all that but had an extra quality that lifted him to a higher orbit. As the letter to Charles indicates, he had nerve. In a rare moment of reflection, Fugger said he had no trouble sleeping because he put aside daily affairs as easily as he shed his clothing before going to bed. Fugger stood three inches taller than average and his most famous portrait, the one by Dürer, shows a man with a calm, steady gaze loaded with conviction. His coolness and self-assurance allowed him to stare down sovereigns, endure crushing amounts of debt and bubble confidence and joviality when faced with ruin. Nerve was essential because business was never more dangerous than in the 16th century. Cheats got their hands cut off or a hot poker through the cheek. Deadbeats rotted in debtor's prison. Bakers caught adulterating the bread received a public dunking or got dragged through town to the taunts of mobs.

Moneylenders faced the cruelest fate. As priests reminded their parishioners, lenders — what the church called usurers — roasted in purgatory. To prove it, the church dug up graves of suspected usurers and pointed to the worms, maggots and beetles that gorged on the decaying flesh. As everyone knew, the creatures were confederates of Satan. What better proof that the corpses belonged to usurers?

Given the consequences of failure, it's a wonder Fugger strove to rise as high as he did. He could have retired to the country and, like some of his customers, lived a life of stag hunting, womanizing and feasts where, for entertainment, dwarfs popped out of pies. Some of his heirs did just that. But he wanted to see how far he could go even if it meant risking his freedom and his soul. A gift for rationalization soothed his conscience. He understood that people considered him "unchristian and unbrotherly." He knew that enemies called him a usurer and a Jew, and said he was damned. But he waved off the attacks with logic. The Lord must have wanted him to make money, otherwise he wouldn't have given him such a talent for it. "Many in the world are hostile to me," Fugger wrote. "They say I am rich. I am rich by God's grace without injury to any man."

When Fugger said Charles would not have become emperor without him, he wasn't exaggerating. Not only did Fugger pay the bribes that secured his elevation, but Fugger had also financed Charles's grandfather and taken his family, the Habsburgs, from the wings of European politics to center stage.

Fugger made his mark in other ways, too. He roused commerce from its medieval slumber by persuading the pope to lift the ban on moneylending. He helped save free enterprise from an early grave by financing the army that won the German Peasants' War, the first great clash between capitalism and communism. He broke the back of the Hanseatic League, Europe's most powerful commercial organization before Fugger. He engineered a shady financial scheme that unintentionally provoked Luther to write his "Ninety-five Theses," the document that triggered the Reformation, the earth-shattering event that cleaved European Christianity in two. He most likely funded Magellan's circumnavigation of the globe.

On a more mundane note, he was among the first businessmen north of the Alps to use double-entry bookkeeping and the first anywhere to consolidate the results of multiple operations in a single financial statement — a breakthrough that let him survey his financial empire with a single glance and always know where his finances stood. He was the first to send auditors to check up on branch offices. And his creation of a news service, which gave him an information edge over his rivals and customers, earned him a footnote in the history of journalism. For all these reasons, it is fair to call Fugger the most influential businessman of all time.

Fugger changed history because he lived in an age when, for the first time, money made all the difference in war and, hence, politics. And Fugger had money. He lived in palaces and owned a collection of castles. After buying his way into the nobility, he lorded over enough fiefdoms to get his name on the map. He owned a breathtaking necklace later worn by Queen Elizabeth I. When he died in 1525, his fortune came to just under 2% of European economic output. Not even John D. Rockefeller could claim that kind of wealth. Fugger was the first documented millionaire. In the generation preceding him, the Medici had a lot of money but their ledgers only report sums up to five digits, even though they traded in currencies of roughly equal value to Fugger's. Fugger was the first to show seven digits.

Fugger made his fortune in mining and banking, but he also sold textiles, spices, jewels and holy relics such as bones of martyrs and splinters of the cross. For a time, he held a monopoly on guaiacum, a Brazilian tree bark believed to cure syphilis. He minted papal coins and funded the first regiment of Swiss papal guards. Others tried to play the same game as Fugger, most notably his Augsburg neighbor Ambrose Hochstetter. While Fugger was never richer or more solvent than at the time of his death, Hochstetter, the pioneer of banking for the masses, went bust and died in a prison.

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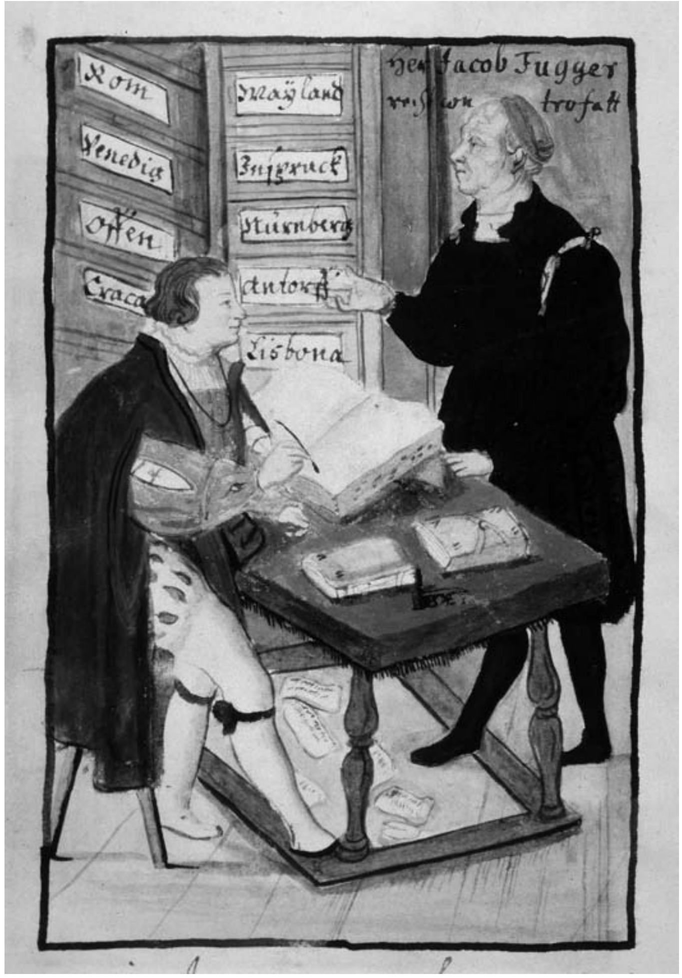
Portrait of Jacob Fugger, the Rich, by Albrecht Dürer (1471–1528).



16th century watercolor of the German financier Jacob Fugger in his golden writing room with his accountant, Matthaus Schwarz.

© Leemage/Corbis

Fugger began his career as a commoner, the lowest rung in the European caste system. If he failed to bow before a baron or clear the way for a knight on a busy street, he risked getting skewered with a sword. But his mean origins posed no obstacle; all businesspeople were commoners and the Fugger family was rich enough to buy him every advantage. The Fuggers had a knack for textile trading and records show they were among the biggest taxpayers in town.

There were nevertheless challenges. Fugger's father died when he was 10. If not for a strong and resourceful mother, he might have gotten nowhere. Another handicap was his place in the birth order. He was the seventh of seven boys, a spot in the lineup that should have landed him in a monastery rather than in business. He had character flaws like anyone else. He was headstrong, selfish, deceitful and sometimes cruel. He once sent the family of a top lieutenant to the poor house after the aide died and he refused to forgive a loan. But he turned at least one of those flaws — a tendency to trumpet his own achievements — into an asset. His boasts were good advertising; by letting visitors know what he paid for a diamond or how much money he could conjure for a loan, he broadcast his ability to do more for clients than other bankers.

The downside of notoriety was resentment. Enemies pursued Fugger most of his working life, and his career unfolded like a video game. They attacked him both head-on and from surprising angles, throwing him progressively more difficult challenges as he rose in wealth and power. Luther wanted to bankrupt him and his family, declaring he wanted to "put a bit in the mouths of the Fuggers." Ulrich von Hutten, a knight who was the most famous German writer of his time, wanted to kill him. But he survived every assault and accumulated more points in the form of money and power.

Did success make Fugger happy? Probably not, at least not by conventional terms. He had few friends, only business associates. His only child was illegitimate. His nephews, to whom he relinquished his empire, disappointed him. While on his deathbed, with no one at his side other than paid assistants, his wife was with her lover. But he succeeded on his own terms. His objective was neither comfort nor happiness. It was to stack up money until the end. Before he died, he composed his own epitaph. It was an unabashed statement of ego that would have been impossible a generation earlier, before the Renaissance philosophy of individualism swept Germany, when even a self-portrait — a form of art Dürer created during Fugger's lifetime — would have been regarded as hopelessly egotistical and contrary to social norms.

> TO GOD, ALL-POWERFUL AND GOOD! Jacob Fugger, of Augsburg, ornament to his class and to his country, Imperial Councilor under Maximilian I and Charles V, second to none in the acquisition of extraordinary wealth, in liberality, in purity of life, and in the greatness of soul, as he was comparable to none in life, so after death is not to be numbered among the mortal.

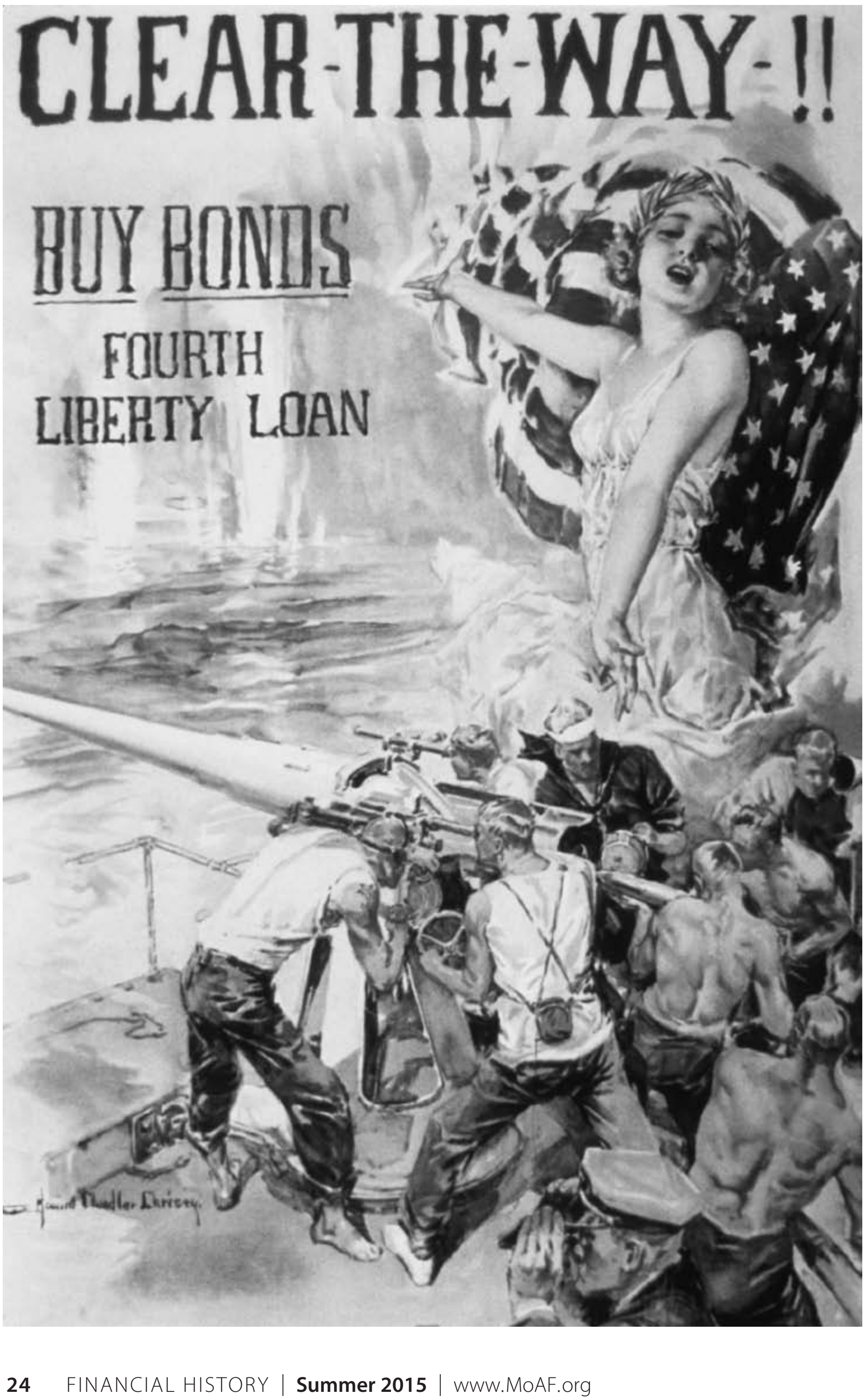
Today Fugger is more known for philanthropic works, notably the Fuggerei public housing project in Augsburg, than for being "second to none in the acquisition of extraordinary wealth." The Fuggerei remains in operation and attracts thousands of foreign visitors a year thanks to investments Fugger made five centuries ago. But Fugger's legacy is even more enduring. His deeds changed history more than those of most monarchs, revolutionaries, prophets and poets ever did, and his methods blazed the path for five centuries of capitalists.

We can easily see in Fugger a modern figure. He was at his core an aggressive businessman trying to make as much money as possible and doing whatever it took to achieve his ends. He chased the biggest opportunities. He won favors from politicians. He used his money to rewrite the rules to his advantage. He surrounded himself with lawyers and accountants. He fed on information. These days, billionaires with the same voracious instincts as Fugger fill the pages of the financial press. But Fugger blazed the trail. He was the first modern businessman in that he was the first to pursue wealth for its own sake and without fear of damnation. To understand our financial system and how we got it, it pays to understand him. $

Greg Steinmetz spent 15 years as a journalist for publications including New York Newsday *and* The Wall Street Journal, *and he currently works as a securities analyst for a money management firm in New York. He is the author of* The Richest Man Who Ever Lived: The Life and Times of Jacob Fugger *(Simon & Schuster, 2015), from which this article has been adapted.*

AN EXCEPTION

A Brief History of the Default on the Fourth Liberty Loan



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"Clear the Way!" Fourth Liberty Loan poster by Howard Chandler Christy, circa 1918.

By Joshua Herbstman

If one were to ask a financial professional about the safety of US Treasury bonds, the answer likely proffered would be something along the lines of the following: "US Treasury securities are the safest assets in the world. They are the benchmark of all debt instruments, sovereign or otherwise. Treasuries always pay. Always."

For almost every investor alive today, this answer is perfectly sound. You buy a Treasury bill, note or bond, and America will pay you, in full, every dime of principal and interest you are owed. Be it a time of war, recession or political disagreement, the United States *always* pays its debt obligations.

That is not to say people have not lost money on government bonds. Due to the ever-changing financial markets, the price of Treasuries continually fluctuates to reflect prevailing interest rates. Failing to hold a bond until maturity may very well result in a loss. Leveraged positions betting on the direction of interest rates may also produce a red balance sheet. But if you purchase a Treasury security and hold it until maturity, you are going to receive 100 cents to the dollar on your investment. That is a promise that millions of individuals and institutions around the world have (literally) "taken to the bank." And it has always been the case.

Except for this one time…

A century ago, during the summer of 1914, armies across Europe embarked on what would be the bloodiest war humanity had yet experienced. The root causes of the

Great War were varied: the political assassination of Archduke Franz Ferdinand of Austria, colonial and territorial disputes involving the European powers and the difficult political landscapes of those very same nations. To be sure, the July Crisis of 1914, which resulted from the assassination of the Archduke (heir to the throne of the Austro-Hungarian Empire) by a Serbian was the match which began the conflagration.

When the Kingdom of Serbia refused the politically untenable Austro-Hungarian ultimatums, war was declared. Two great alliances would face each other: the Allies, composed of the British Empire, France and Russia, and the Central Powers, composed of Germany and the Austro-Hungarian Empire. Other nations would soon entire the conflict, notably the Ottoman Empire joining with the Central Powers in late 1914, and Italy joining with the Allies in 1915.

At the war's onset, the United States maintained a strict foreign policy of neutrality. Americans had no appetite for intervention in a foreign war, and President Woodrow Wilson vowed to keep it that way. As the war progressed, however, events began to change public and political opinions. On May 5, 1915, a German U-Boat sank the British ocean liner *RMS Lusitania*. Of the nearly 1,200 passengers on board, 128 of them were American citizens.

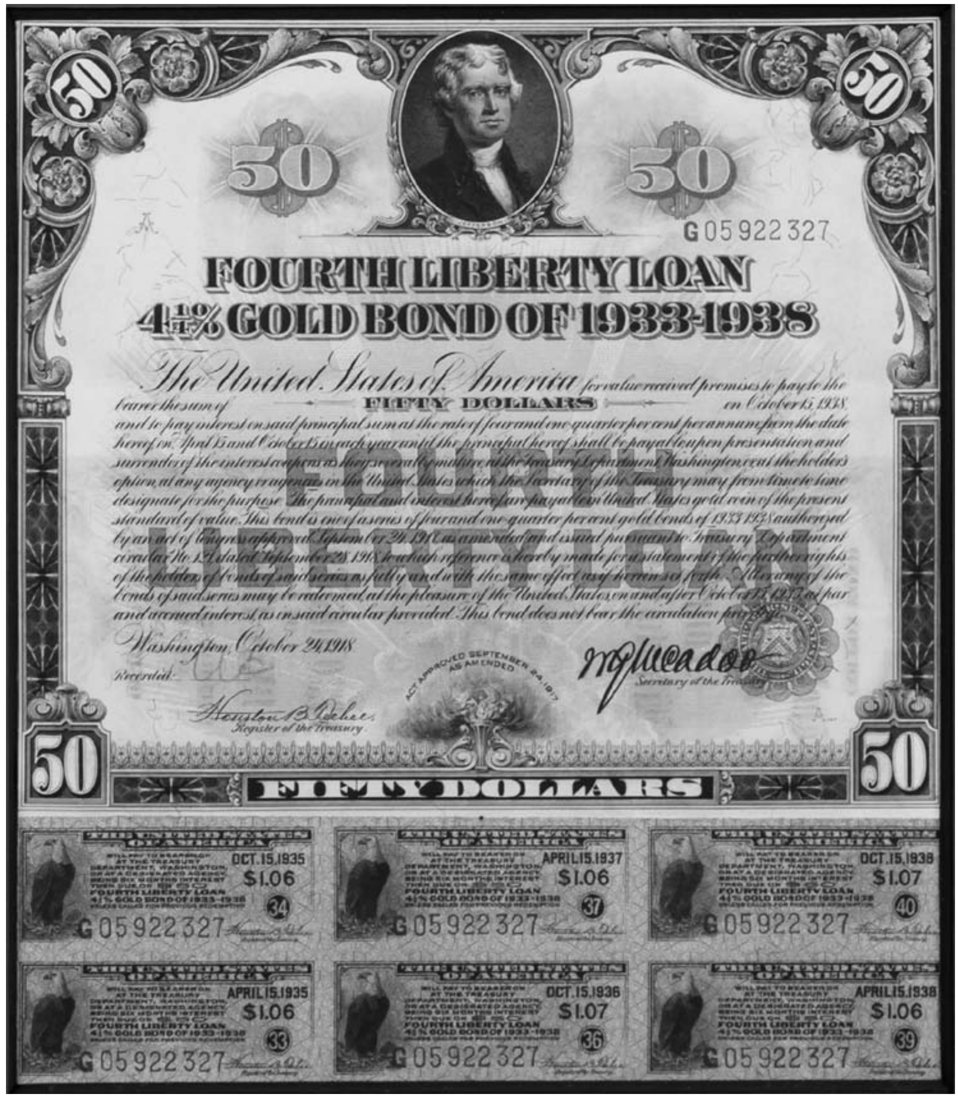
The Central Powers did not want the United States to enter the conflict, and Germany pledged that neutral ships and passenger vessels would be off-limits. However, in 1917, Germany resumed a policy of unrestricted submarine warfare. This, coupled with the famous Zimmermann Telegram (an intercepted German diplomatic cable proposing a military alliance with Mexico against the United States), pushed America into the war. In April of 1917, the US declared war on the German Empire, and by the end of the year, the Austro-Hungarian Empire as well.

To finance America's participation in the conflict, President Wilson turned to his Treasury Secretary, William Gibbs McAdoo. McAdoo had limited options in raising the needed revenues to finance the war, namely domestic bond sales and/or changes in tax policy. Both options had strong support and opposition in various political circles. Ultimately compromise prevailed, and a combination of both policies was undertaken.

Through a series of three Revenue Acts beginning in 1916, Congress raised individual and corporate tax rates. The lowest individual tax bracket went from a net income level of $20,000 and above in 1916 to a level of $5,000 and above by 1918. The highest tax rate paid on individual income jumped from 13% to 65% in the same period. Furthermore, corporate taxes increased and Congress implemented a

Elsa Ruiz

"For Victory, Buy More Bonds" Fourth Liberty Loan poster on view at the Museum of American Finance.



$50 gold bond from the Fourth Liberty Loan.

Joe I. Herbstman Memorial Collection

war profit tax as well. Approximately one-quarter of the cost of the war was paid for by the changes made to the tax code.

The remaining revenue would come from the sale of government debt. All told, more than $20 billion would need to be generated by the sale of war bonds over a two-year period. Such debt issuance had never been attempted before in American history. Indeed, the national debt stood at only some $3.6 billion in the summer of 1916. Previous Treasury bond sales were usually targeted at banks and large investors, but the Liberty Loan program was to be different. McAdoo knew that financial institutions alone could not buy up all of the needed debt, so the Liberty Loans had to be sold to individual American families as well.

The Liberty Loans (also known as Liberty Bonds) were sold throughout five different issues: a First Liberty Loan (30-year bond), a Second (25-year bond), a Third (10-year bond), a Fourth (20-year bond) and a Victory Loan (four-year note). Issued from June 1917 through May 1919, the program raised some $21 billion through the sale of about 66 million securities.

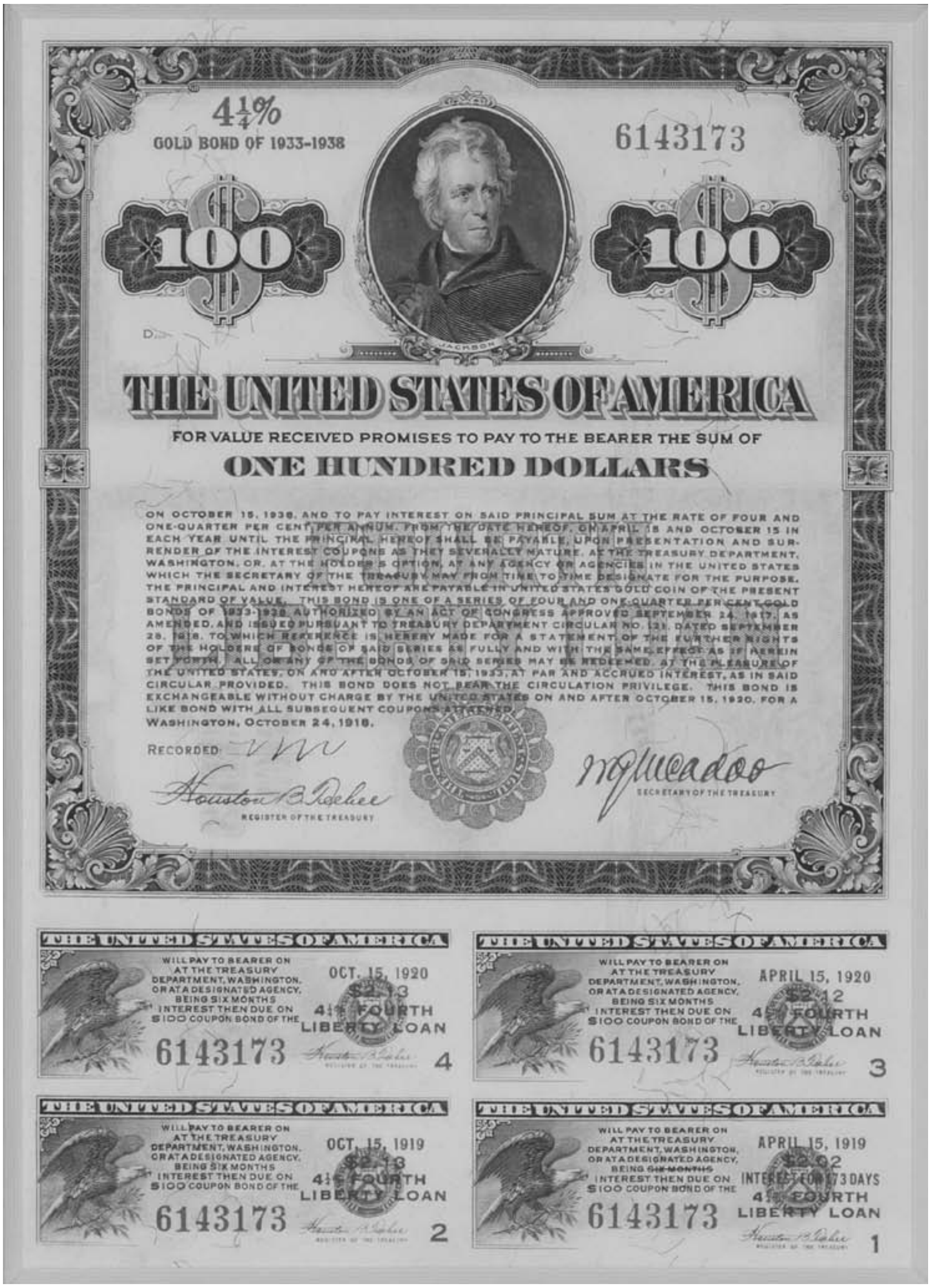
McAdoo went to great lengths to promote Liberty Bond sales. Hollywood stars such as Charlie Chaplin and Douglas Fairbanks promoted the sale of war loans. The Boy Scouts went door-to-door campaigning for subscriptions to the Liberty Loans. Various women's auxiliary groups held bond drives. Through massive campaigns of advertisement and propaganda, immigrant communities were encouraged to prove their patriotism by the purchase of Liberty Loans.

And the efforts did not stop there. The First and Second Liberty Bonds featured convertibility provisions that allowed for bondholders to freely exchange their securities should interest rates rise in the future. The First Liberty Loan, originally issued at 3.5% in June of 1917, was converted twice: once to a 4% loan and then to 4¼%. The Second Liberty Loan, originally issued at 4% in November of 1917, was subsequently converted to 4¼% as well. In addition to the conversion provisions, Congress exempted the interest on the Liberty Loans from all federal taxes, save the estate tax. And banks were encouraged to lend money at below market rates for the sole purpose of allowing individuals to buy Liberty Bonds and arbitrage the difference.

Ultimately the bond drives were successful, as was the Allied cause. Hostilities came to an end, and exactly five years to the day of Archduke Ferdinand's assassination, the Treaty of Versailles ended the war between Germany and the Allied powers. Further treaties soon followed, as peace finally came to a war-torn world.

As the 1920s progressed, the US Treasury began to partially retire the Liberty Loans. The Victory issue, which was a short-term Treasury note, was retired by 1923. The next issue on the Treasury's radar was the 10-year Third Liberty Loan, which would mature in 1928. This refinancing would be complicated by a competing interest, which was the fact that an early redemption of the 25-year Second Liberty Loans would save the Treasury money in the long term. The Treasury would ultimately balance the challenges of refinancing the older war debt by issuing new securities and giving bondholders the option to exchange their Liberty Loans for new debt issues.

The roaring prosperity of the 1920s gave way to an economic collapse in the 1930s. The Great Depression saw US unemployment quadruple in a matter of years, with breadlines and "Hoovervilles" emerging throughout the nation. As one response to the economic catastrophe, President Franklin D. Roosevelt reigned in the private ownership of gold and gold instruments. The rationale was that by preventing the hoarding of gold, economic activity would increase, and the Federal Reserve could increase the money supply available.



$100 gold bond from the Fourth Liberty Loan.

Joe I. Herbstman Memorial Collection

On April 5, 1933, Executive Order 6102 was issued, requiring gold coin, gold bullion and gold certificates to be delivered to the government. Some exceptions were allowed, according to the Act; "Gold coin and gold certificates in an amount not exceeding in the aggregate $100 belonging to any one person; and gold coins having a recognized special value to collectors of rare and unusual coins."

Some eight months later, Congress passed the Gold Reserve Act (January 30, 1934). This law prohibited the private ownership of most gold. It also changed the Treasury's nominal valuation of gold from $20.67 per ounce to $35 per ounce. It is this provision that led to the only default in the history of US Treasury debt.

Like many debentures of the 18th and early 19th centuries, the Liberty Loans were gold bonds, meaning they had a provision whereby "principal and interest hereof are payable in United States gold coin of the present standard of value." Some $5.4 billion worth of Fourth Liberty Loans were outstanding as of February 1, 1934. And gold had just been devalued some 40%, angering many bondholders. Enter the US Supreme Court.

In one of several legal challenges categorized as the Gold Clause Cases, the Supreme Court would determine whether or not holders of the Fourth Liberty Loan would be entitled to a pre-1934 dollar-gold valuation of their bonds. In *Perry v. United States*, the plaintiff argued that the government had violated provisions of the 14th Amendment, which state that "The validity of the public debt of the United States, authorized by law…shall not be questioned." Perry argued that government, by refusing to honor the original terms of the bond, went beyond its legal and Constitutional authority.

The federal government countered that the validity of the public debt was not being undermined, since the debt was not, in fact, being repudiated. Bondholders would be receiving 100 cents to the dollar, albeit in dollars devalued from an earlier exchange rate. Furthermore, they countered, the 14th Amendment said nothing about the medium of payment.

President Roosevelt was not prepared for a ruling that would favor Perry. Privately, the White House was considering various options should the Court rule against the government. A whisper campaign of sorts began, attempting not only to influence the Court, but public sentiment as well. Articles appeared in major newspapers discussing the issue. The President even floated an idea to Treasury Secretary Henry Morgenthau Jr. to unsettle the financial markets should Perry preside in the case. The Secretary adamantly refused such a proposal, and eventually the President settled on a plan to simply ignore the opinion from high court should it rule against the government. The White House would invoke sovereign immunity until a legislative answer from Congress could remedy the Court's decision.

In his opinion on behalf of the Court, Chief Justice Charles Hughes seemed persuaded by Perry, writing, "We conclude that the Joint Resolution of June 5, 1933, in so far as it attempted to override the obligation » *continued on page 38*

Richard W. Schabacker's Gift to Technical Analysis

Courtesy of James Martin Schabacker

Portrait of Richard W. Schabacker.

By George A. Schade, Jr.

By the close of 1928, Richard W. Schabacker had concluded that failure in the stock market was largely "due to plain ignorance of market affairs." An intense observer of Wall Street, articulate financial writer and astute adviser, Schabacker devoted his short-lived career to educating investors and professionals on stock market operations. His knowledge of Wall Street was encyclopedic, his writing prolific. Always advocating prudence in investing, he left an influential legacy in the field of technical analysis.

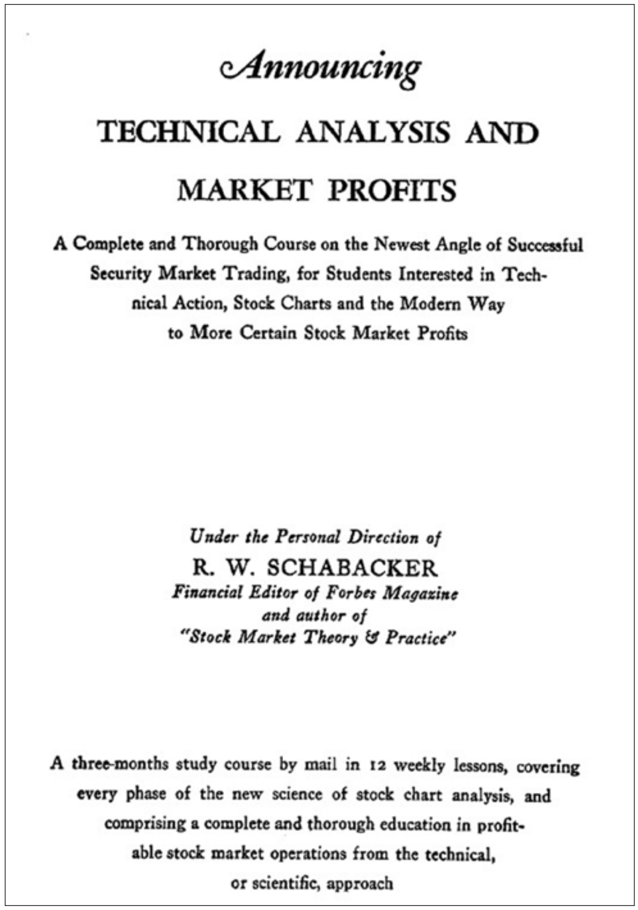
The Education of a Writer

In his application to Princeton's graduate English department in 1923, Schabacker stated that his intended career was "either financial or literary writing." He had had a "number of financial and literary articles published" and had done financial writing for the Federal Reserve Bank of New York in his first job after college, as well as some "literary writing as a free lance." In his hometown of Erie, Pennsylvania, he had been the editor of his high school student newspaper, an early indicator of his passion for writing. He was also class president at Erie High School, a leadership position that foreshadowed his interest in politics.

In September 1917, 18-year-old Schabacker entered Princeton University. The following year, after the United States entered World War I, he enrolled in the Student Army Training Corps, a program similar to today's ROTC. However, he did not serve in the active military as the war ended.

Schabacker was a member of Whig Hall, the nation's oldest collegiate debating forum devoted to literary and political issues. He was an editor of Princeton's yearbook, *Bric-a-Brac*, an activity that fulfilled an affinity for humorous writing that he would later satisfy on the pages of *Pudge* and *Life* magazines under the pen name Richard S. Wallace.

In June 1921, Schabacker was awarded an A.B. in Economics. The degree from the Department of History and Politics was



Courtesy of Princeton University

Advertisement for Richard Schabacker's 1932 course, "Technical Analysis and Market Profits."

with high honors, as he ranked 22nd in his class of 212 graduates. Alumni would later "remember the sly intelligence of his humor, and his power of dispassionate observation of what went on around him — a power which was to make him one of the recognized observers and interpreters of trends in the business world."

That career began at the Federal Reserve Bank of New York, where Schabacker worked from 1921 to 1923. While working in the Reports Department, he constructed a stock market index of representative stocks that went back to 1872. He likely selected that year because in September 1871 the New York Stock Exchange had established a continuous market in stocks.

Schabacker linked his 1872–1896 series to the original Dow Jones Industrial Average (DJIA) from 1897 to 1914, and then to the 1914 version of the DJIA after the Exchange reopened that year. He undertook this project because "there was no accurate index of American industrial stock prices dating back very far beyond the opening of the 20th century." He used his longer index as a comparison to historical interest rates and business activity.

Schabacker may have worked for a short time in 1923 at Standard Statistics Company, Inc. before he returned to Princeton in September to obtain a graduate degree in English. Pursuing a financial writing and literary career, Schabacker studied literary criticism, Greek/Hellenistic philosophy, English literature and dramatic technique. The Department of Classics granted him a Master of Arts on June 17, 1924.

He then moved 100 miles west of Erie to Cleveland, Ohio, to write a financial column for the *Cleveland Plain Dealer* newspaper. But it would be his next position that would propel his career.

Forbes Financial Editor

On November 15, 1925, *Forbes* business magazine published Schabacker's article entitled "Good Stocks to Put in Christmas Stockings," in which he recommended suitable stocks to give relatives. Elderly relatives "should have safety of principal above all else," while the young "may welcome a small element of speculation." Foreshadowing modern portfolio managers who counsel to buy what one knows, Schabacker suggested that women would like to own the stocks of stores where they shopped.

Four weeks later, founding editor Bertie Charles Forbes promoted Schabacker to the position of associate editor. The April 1, 1927, masthead first listed him as the financial editor. The issue noted the "comprehensive review of current developments affecting business, agriculture and industry, written by" Schabacker. He remained *Forbes'* financial editor until his death in 1935.

Schabacker authored the featured "Stock Market Outlook" column that reviewed the stock market and recommended investment strategies. The fact that the column had previously been written by Managing Editor J.G. Donley, Jr. showed the importance B.C. Forbes ascribed to it.

Schabacker's "Outlook" column was written under the name R.W. Schabacker and was headed by a four-year (and later a five-year) chart of *The New York Times'* composite index of 50 industrial and railroad stocks and the separate indexes of 25 stocks each. He wrote his last column the day before he died.

Schabacker often contributed an accompanying article under the name Richard S. Wallace, the *nom de plume* he had adopted for his lighter humorous pieces. The articles analyzed leading stocks, sectors and corporate bonds rather than current stock market trends. Since his first years at *Forbes*, he had a knack for analyzing the prospects of broadly held stocks and bonds. He would say he had been involved in writing all the other articles.

From 1927 on, Schabacker's columns showed his increasing interest in the technical side of the stock market. The titles of the columns spoke of "technical indications," "technical position looks much stronger," "signs of distribution," "no technical market bottom is yet apparent" and "anticipated technical support base." The inclination to the technical side was evident.

The column advised both the "long-pull" investor and more active speculator. Schabacker rendered opinions on when to buy, sell or gradually begin holding or lightening positions. He was not adverse to short selling but was cautious on using margin. He described himself as having a conservative temperament, but he was not willing to forego "speculative profits by bucking the trend," a view evoking Wall Street's maxim "the trend is your friend."

Schabacker was willing to admit error. The 1931 annual forecast column began with him conceding "to admit frankly that he was wrong in his prophecy for 1930." The Great Depression challenged everyone's opinions.

With his career established at *Forbes*, on September 2, 1930, Schabacker married fashion designer Elizabeth ("Larrie") Edwards in St. Thomas's Church of Hamilton, New York. They later had two children.

The Foundational Books

As the bull market climbed into 1929, Schabacker was convinced that the public, with a growing desire for stock market participation and knowledge, needed to be "completely versed, in all matters affecting the stock market and its trading operations." Between 1930 and 1934, he wrote three books to meet this need.

His first book, *Stock Market Theory and Practice* (1930), with 105 illustrations and 12 appendices, was 875 pages long. Reviewers described it as the "most complete and exhaustive treatment of the subject" and "most ambitious undertaking I have ever known." The first part of the book described the physical machinery of securities and exchange operations; the second part covered "the basic principles" of technical analysis. Schabacker's gift to technical analysis begins in the chapters toward the end of the book where he describes various chart formations derived from the trends of stock prices.

In 1932, he published an instruction course consisting of 12 weekly "studies" totaling 400 pages with over 70 charts. The course, which cost $100, was compiled into a book entitled *Technical Analysis and Stock Market Profits: A Course in Forecasting* (1937).

Schabacker announced that the course "comprises a complete and thorough education in profitable stock market operation from the technical or scientific approach." The course expanded on how to use and profit from the chart formations Schabacker had described in 1930. The course became the seminal basis of technical charting that his brother-in-law, Robert D. Edwards, and John Magee later popularized.

His last book, *Stock Market Profits* (1934), was a "purely general volume on profitable but simple rules and methods for the average" investor who is not in the market as a business. Schabacker believed he had already covered the specialized aspects for professional investors.

Technical Charting

Schabacker "prided himself on early research and practical development" of technical analysis "chiefly through the medium of chart study." He believed that technical principles are "perhaps the most profitable tools" of consistently successful investors because they are based on actual observations of stock market trends and history.

While natural factors of supply and demand influenced the stock market, the market was also influenced by artificial factors of pool manipulations and banking operations, the latter mainly through interest rate changes. Writing in 1930, he noted that there "is no longer much doubt in the minds of authorities that pools do exist."

He posited the four stages of a pool's operations: Accumulation, Marking

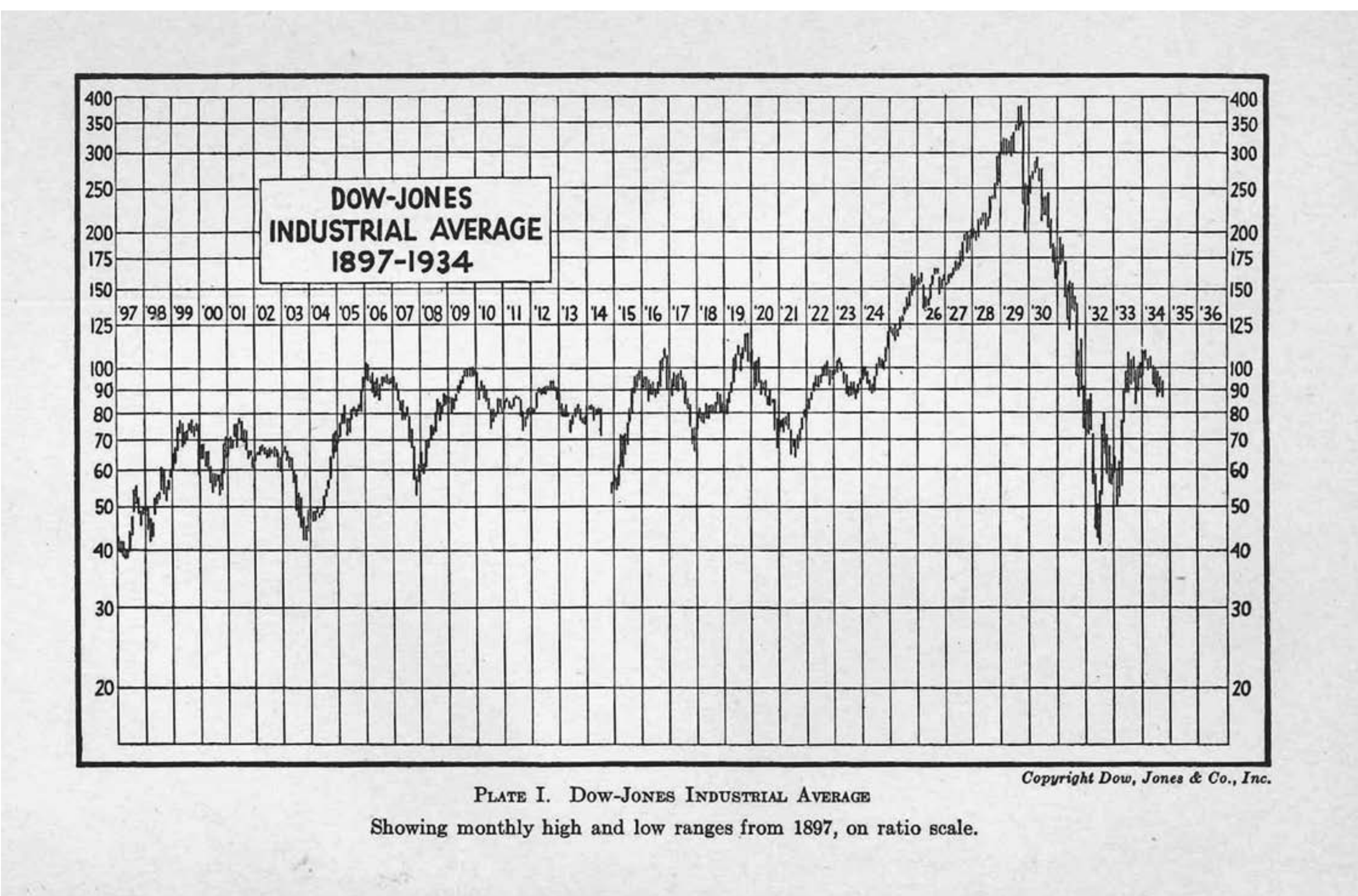


Chart of the Dow Jones Industrial Average from 1897–1934, published in Richard Schabacker's 1934 book, *Stock Market Profits*.

Up, Distribution and Marking Down. Although government regulation later curtailed the overt influence of pools, the stage model retained its viability because regulatory actions do not trump human nature. Manipulation can change its form, but it does not disappear.

The "most satisfactory method of studying past and current market action is through the medium of charts." While he was "an ardent believer in the efficacy of charts," they "are not the magic key to stock market success" as charts can mislead and impart a sense of false security.

In 1930 Schabacker identified seven "cardinal forecasting formations," visible on a price chart, which show investors' accumulation of stocks, namely:

1. Head and Shoulders Bottom
2. Common Upward Turn
3. Triangular Bottom
4. Ascending Bottom
5. Double Bottom
6. Complex Bottom
7. Broadening Bottom

When these formations are reversed, they indicate distribution or stock selling. Formations forewarn either continuation or reversal of a price trend. For example, the common head-and-shoulders pattern usually signals a reversal in trend.

Stock prices move in trends. A trend remains in the direction it is moving until it reverses. As Schabacker explained at a meeting of the American Statistical Association on April 24, 1934, in New York City:

> "It is not important to know why either buyers or sellers are in the majority—all that is necessary is to know that such is the case and align oneself accordingly. As soon as the trend changes, one must also change his position in the market, and the rules of technical analysis make such a change practically automatic."

Schabacker applied charting analysis to individual stocks and groups and not solely to composite market indices. The formulation of consistent price formations and their interpretations advanced the acceptance of technical charting, which Schabacker called a "new science."

Schabacker had rules for profitable investing, but he adamantly asserted that no rule or principle is infallible. None of the principles of technical charting are guaranteed to work all the time due to human fallibility and unforeseeable events or news.

> "We have previously advanced the theory that the next market reaction will develop sometime around the close of this month or early in October."
>
> *Forbes,* September 15, 1929

The key rules are:

- Before entering the market, give it the time, study and planning that you would give to your business.
- Be conservative. Don't overtrade.
- Avoid hasty decisions.
- Avoid over-enthusiasm. A calm and patient judgment is necessary.
- Cultivate independent judgment. Think for yourself.

Many of the rules focus on psychology. Schabacker believed that "public psychology is one of the important motivating factors in any long-term stock market movement." The market's actions, upon which technical analysis is grounded, are significantly influenced by the participants' emotions of fear and greed. He counseled against entering or exiting an investment when one is not psychologically comfortable.

Two "logical guardians" for trading are stop loss orders and "crossing the crowd" (not following it) when rumors prevail or enthusiasm seems higher than logical. Schabacker believed that for "insiders" or pool operators to make money, they had to do the opposite of the crowd. The concept of crossing the crowd bespoke an approach that others would subsequently formulate as "Contrary Opinion."

Likewise, his views on diversification of investments were ahead of the times. He recommended "very broad" diversification not only to include stocks from different industry groups, but also commodities, real estate and insurance.

Schabacker was successful. He was a member of the private membership Larchmont Shore Club, University Club and Larchmont Players. According to John Magee, Schabacker "had reputedly made a quarter of a million dollars" while investing in the stock market using charts.

A Life Ends

Unfortunately, we will not know how far Schabacker would have advanced his pioneering work on market forecasting, technical analysis and portfolio management. On September 7, 1935, Schabacker passed away at the New Rochelle Hospital from a self-inflicted gunshot wound. Police reported that Schabacker had "been ill for the past three months and only 10 days ago was released from Cromwell Hall, a sanitarium at Cromwell, Connecticut."

His friend B.C. Forbes eulogized him: "Readers know how thoroughly he had mastered problems of investment and speculation and how eminent a place he had won as a sound authority."

Richard W. Schabacker was a pioneer of American financial analysis. He left an invaluable gift of market observations, technical concepts, investment principles and trading rules. His legacy has been so extensively examined and accepted that many concepts he advanced have become core elements of modern investment practices. His groundwork left an impressive footprint on the financial landscape. **$**

George A. Schade, Jr., CMT, has written extensively on the history of technical analysis.

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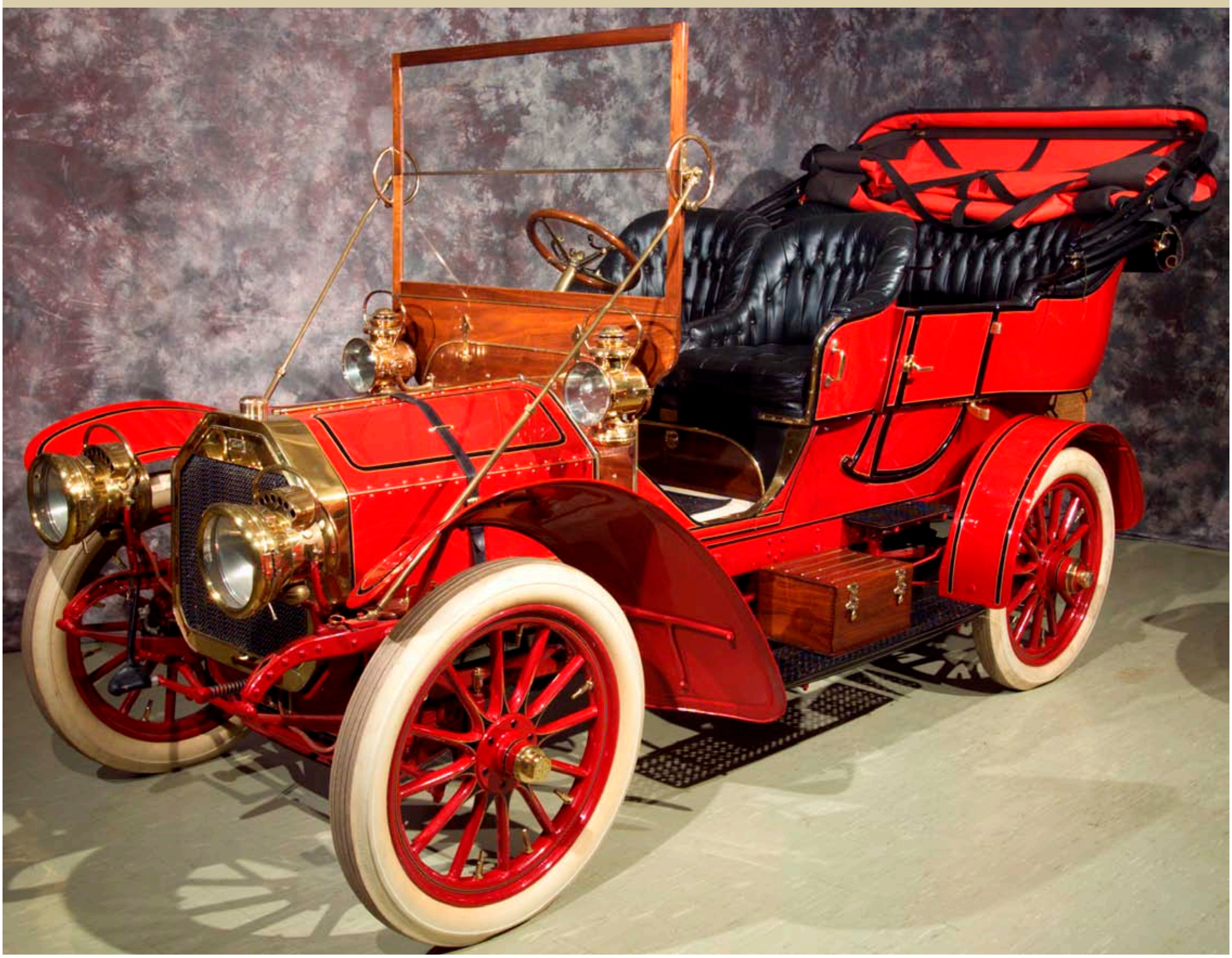
WHEN CLEVELAND WAS MOTOWN

From wringers to luxury cars to beer, Peerless was a pioneer of reinvention



Western Reserve Historical Society

Peerless at its peak. The 1905 Touring Car.

By Gregory DL Morris

Cleveland was the motor city first, before Detroit. And before Duisenberg gave rise to the term "doozie," Peerless was just that: peerless. In the early days of automobiles the Peerless Motor Car Company set the standard for engineering innovation and for luxury in an era when motoring was much more adventurous than it has become a century later.

But well before and well after its heyday as a car maker, Peerless was an early innovator and pioneer of two more ephemeral essentials in business history: tenacity and reinvention. It was formed out of an alliance between the Mercantile Manufacturing Company of Cleveland and the Peerless Wringer Company of Cincinnati. In 1869 the two companies merged and formed the Peerless Wringer & Manufacturing Company, which produced washing wringers. The company later switched to the manufacture of bicycles, and then, as was typical of the times, began producing automobiles. The company would eventually end up brewing beer.

The last vestige of the direct corporate lineage did not cease operations until 1984, which means Peerless, its predecessors and successors did business over 115 years. Peerless automobiles have car clubs and legions of loyal fans, but the company may be the most successful firm that hardly anyone remembers.

The company began manufacturing automobiles and parts in 1901 and was renamed the Peerless Motor Car Company two years later. In 1902 Peerless hired Louis P. Mooers, who designed the first completely original Peerless automobile. By the next year, the Peerless was the costliest vehicle being built in the United States, with a price tag ranging from $2,800 to $11,000 (equivalent to $80,000 to $320,000 in 2015). And that was at a time when an industrial factory worker made less than $1,000 a year.

By 1905 the company became known for its high quality, well-built luxury touring vehicles. According to the Peerless Motor Car Club, "Peerless had many firsts in design, such as: an engine under the hood; a drive shaft with floating rear axle; a stamped steel frame; the first side entrance touneau; a tilting steering wheel; an accelerator pedal; the use of aluminum to save weight; and the first enclosed body. The first starters and electric lights, and the list goes on and on."

The fact that northeast Ohio in general, and Cleveland in particular, were the hotbed of industrial innovation around the turn of the century should be no surprise. Raw materials, water transportation and large population centers as sources of workers and customers were all readily at hand.

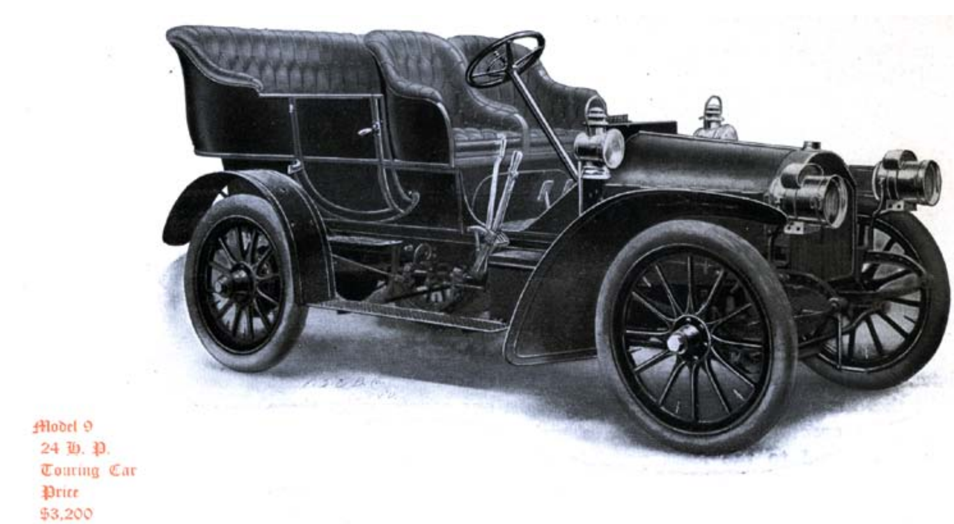
The world's first commercial oil well had been dug at Petrolia, Ontario, in 1858, and the more famous Drake well drilled at Titusville, Pennsylvania, the next year, both only about 100 miles from Cleveland. Oil was soon discovered in Ohio as well. John D. Rockefeller was a young merchant in Cleveland in the 1880s who noticed both the strong demand for kerosene, and the great variation of quality. He formed a company to refine a reliable, standard grade.

"From 1896 through 1907 Cleveland was the first motor city," said Derek Moore, curator of transportation at the Western Reserve Historical Society (WRHS) in Cleveland. "There were more vehicles made here than in any other city in the country. Cleveland was already a well-established industrial city. A lot of immigrants with skilled trades came to the area because of the industries. Alexander Winton, an early automotive pioneer, came here from Scotland. He started trying to fit an internal combustion engine to a bicycle, and then moved to carriages."

Both Winton and Henry Ford brought out their first models in 1896. Indeed the density in and around Cleveland was part of the reason that Ford — once he had fixed on the low-cost, high-volume assembly line approach — sought space and suzerainty outside the next big industrial city west along the Great Lakes: Detroit.

Throughout the 1910s Peerless produced some of the largest engines to appear in American autos. As the 1920s progressed, the company realized that the market for their large, expensive vehicles was limited and began production of lower priced, medium-size autos. The last year of production for the Peerless Motor Car Company was 1931, at which time it was working on an all-aluminum, V-16 powered prototype sedan. The prototype would be the last vehicle built by a Cleveland-based automobile company. With the end of Prohibition, the Peerless Motor Car Company became the Brewing Corporation of America and began producing Carling beer.

"Peerless is the story of a business trying to stay alive and up to date doing what seemed most in demand," said Moore. "One modern analogy is Google. It started as a search engine, but now does many other things too. The 1905 model was probably the peak for Peerless. Theirs



1905 ad for the Peerless Touring Car, priced at $3,200.

Western Reserve Historical Society

Western Reserve Historical Society

Unique prototype of the Peerless all-aluminum touring sedan, 1932.

were the most-expensive, highest quality cars in the US. They had precision-built engines; the vehicles were durable and did not have a lot of maintenance issues. The luxury market was the only market at the time, and Peerless had the best engines, transmissions and bodies."

Flush with success, Peerless built a new factory at Quincy Avenue and East 93rd Street, in the neighborhood known as Fairfax. It grew to a huge complex sprawling over many blocks.

The Crash of 1929 and the Great Depression hit the automobile industry hard, and the hardest at the high end. "Through the mid-'20s sales were slumping for Peerless," said Moore. "They were trying to get down market to a larger customer base by

The Owen Magnetic: A Hybrid Ahead of Its Time

In the broad and deep automobile collection of the Western Reserve Historical Society (WRSH) in Cleveland is a dazzling DeLorean coupe in bright brushed aluminum. It looks fast sitting still with its iconic low, wicked, wedge profile and gull-wing doors. The DeLorean does not have a flux capacitor, but the WRHS does have a real back-to-the-future vehicle in its possession. The power train in this automobile is a gasoline engine that drives a generator, which powers the wheels. It is instantly recognizable today as the basic hybrid drive.

But this is no post-millennial eco-econo-bubble. This sumptuous butter-yellow touring sedan is a 1916 Owen Magnetic. It predated the modern hybrids by almost a century.

It bears mentioning that while gasoline was about 20 cents a gallon in 1916, that is roughly equivalent to $3 a gallon today, so fuel was not cheaper. If anything, given prevailing wage rates, it was more expensive, but only the wealthy owned automobiles, so the price of gas was hardly a general concern at the time. Even with those fuel prices, the Owen Magnetic was not an effort to economize. It was a classic embodiment—in steel, glass and leather—of a manufacturing company doing its best to survive and adapt the best it knew how.

Experiments in automobiles date to the late 1600s. Steam, the external combustion engine, was the high technology of the day. Isaac Newton developed a carriage that was propelled by a jet of steam, but it was a novelty. Practical transport in later decades focused on mechanical drive. French and English inventors, including James Watt, crafted working steam carriages in the 1770s and 1780s, about the time of US independence; no small irony there, considering the enduring love Americans have for cars. Steam carriages were common in England by the 1830s.

Vehicles driven by internal combustion engines were developed in the 1860s, about the time of the American Civil War. The contribution of German engineer Gotlieb Daimler was an efficient four-cycle, single-cylinder engine in 1885. He soon developed a V-type two-cylinder engine. Karl Benz was a contemporary, initially working independently. In the US, Charles and Frank Duryea began selling their horseless carriages in the early 1890s. Two enduring names—Alexander Winton and Henry Ford—introduced their first models in 1896.

All through those decades there was a great deal of debate as to whether gasoline, electric or steam power would prove to be the most desirable and effective means of providing propulsion. All three had pronounced advantages and disadvantages, but after the introduction of the electric starter in 1912 gasoline engines became dominant. No more getting out to crank, risking a broken arm or black eye. But even with smoother starting, shifting gears was a burden. The Owen Magnetic was an attempt to combine the unlimited range of gasoline-powered vehicles with the smoothness of electric vehicles.

In the 1880s Justin Entz, of Philadelphia, patented a design for a gasoline engine to drive a generator with the resulting electrical power sent to a motor which then drove the wheels. In theory the Entz design would combine the quiet, smooth operation of an electric motor with the greater power of a gasoline engine. As there were no gears to shift, operation of the vehicle would be simplified.

In 1912 Walter Baker, of the Baker Motor Vehicle Company in Cleveland, purchased the Entz patent. In 1914 the R.M. Owen Company began producing the Owen Magnetic under license from Baker. The next year Baker merged with the Rauch & Lang Carriage Company, another manufacturer of electric vehicles in Cleveland. The new company, which focused on the electric-gasoline automobile, absorbed the R.M. Owen Company and production of the Owen Magnetic.

The Owen Magnetic had stately styling to appeal to the fashionable set. However, it was very complicated to drive. The appeal of smooth gear shifting could not overcome its drawbacks: it was difficult

offering more affordable vehicles, but it never went very well."

In 1931 Peerless management made the triage decision to abandon automobiles entirely and shift to something completely different: beer. At that point it was evident to all that Prohibition had been an utter disaster, and repeal was close at hand. Peerless contracted with the Carling Brewing Company of Canada. When the states ratified the 21st Amendment in 1933, what had been Peerless Motor Car Company became the Brewing Company of America. Its first foray, Red Cap ale in 1934, was a flop, but the next offering was Carling's Black Label, a big seller then that still exists.

In 1954 the company changed its name to the Carling Brewing Co. and eventually bought or built six other breweries around the country. Carling ceased operations at the Cleveland brewery in 1971, but the old plant soldiered on for C. Schmidt & Sons of Philadelphia until 1984. Through the late '80s and '90s the idle complex was demolished in stages. Today it is the site of the Cuyahoga County Juvenile Justice Center, a fitting use for a site that saw more than a century of driving and drinking, though never at the same time.

There is one further irony to the Peerless story. In 1930 and '31, in a last effort to recapture the innovation that built the company, Peerless engineers designed and built a prototype of an all-aluminum touring sedan, from the engines to the frames, axles, wheels and body panels. When Peerless ceased car making at the end of 1931, one complete vehicle was assembled, the unique 1932 Peerless, that now sits gleaming in the atrium of the WRHS.

Flash forward 83 years to early 2015. Ford Motor Company, of Detroit, introduced its latest innovation in lightness, strength and durability: the all-aluminum F-150 pick-up truck. $

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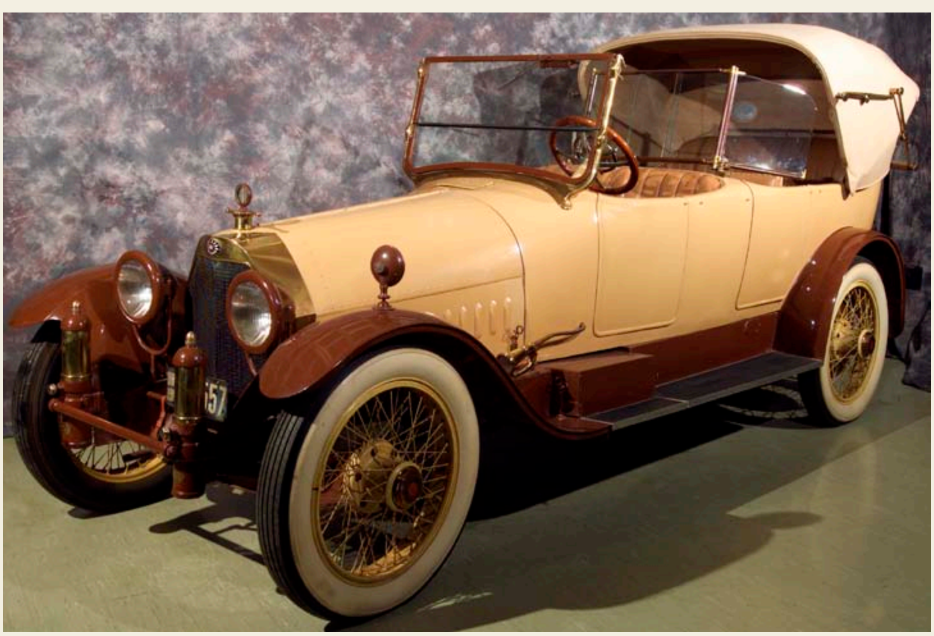
to maintain, heavy and one of the most expensive vehicles made in the United States. During WWI the Baker R&L Company turned to war production and stopped making the Owen Magnetic; it virtually ceased auto production after the war.

The Owen Magnetic lives on in the hearts and minds of engineers and car collectors with its before-its-time innovation. It even had regenerative braking, where the flow of power was reversed, using the momentum of the car to turn the generator and charge the battery. The drag that produced slows the vehicle. That is an essential part of hybrids today and is also used in some locomotives.

The Owen Magnetic could almost be steampunk, but steam is the one technology it does not use. There are other preserved samples, including an operating model owned by renowned car collector Jay Leno; appropriately enough his is electric blue.


Western Reserve Historical Society

Owen Magnetic, 1916.

Leno and his Owen Magnetic were profiled in a 2012 issue of *Popular Mechanics*. The article states that only 700 vehicles were produced. "The ads called it the car of a thousand speeds. But as is sometimes the case, being better isn't always enough. The car had to be competitively priced. A 1917 Ford Model T cost $360; Cadillacs ran about two grand. An Owen Magnetic started at $3,700 and went up from there."

Derek Moore, curator of transportation at the WRHS, put the Owen Magnetic into context: "From a technological standpoint, the Owen Magnetic was more similar to the diesel-electric locomotive of today than the modern hybrid automobiles — they have a more complex drive train and power-transfer system."

Moore added that while the hybrids of today are designed to save fuel, the Owen Magnetic was intended to save the electric car. "It was the successor to the straight battery-powered electric, a modernization with the application of a gasoline engine up front. But it was not a commercial success."

At least not for the manufacturers. From an engineering and manufacturing perspective, it was successful at least as a proof of concept. An estimated three million hybrid vehicles were sold in the US between 2000 and 2014. Somewhere, Justin Entz is smiling.

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Clerks in the US Census Bureau office catalog the names of more than 75 million Americans potentially eligible for Social Security benefits, November 10, 1935.

BENEFITS OF HINDSIGHT

A Brief Look Back at 80 Years of Social Security

By Kristin Aguilera

This year marks the 80th anniversary of Social Security, as President Franklin D. Roosevelt signed the Social Security Act into law on August 14, 1935. But while this legislation was known as the "crown jewel" of FDR's New Deal program, it was actually his distant cousin, Theodore Roosevelt, who introduced America to the notion of social insurance.

In Theodore Roosevelt's 1912 address to the convention of the Progressive Party, he stated, "We pledge ourselves to work unceasingly in state and nation for…the protection of home life against the hazards of sickness, irregular employment, and old age through the adoption of a system of social insurance…"

The idea of social insurance was not Theodore or Franklin Roosevelt's, however, nor was it an American invention at all. First adopted in Germany in 1889, it was already operating in 34 countries by the time the US implemented such a system.

In the years between Theodore Roosevelt's speech in 1912 and the signing of the Social Security Act in 1935, many disparate ideas were proposed for ensuring the economic security of the American people as the Great Depression took hold. Some of the more famous proponents of these plans were California doctor Francis E. Townsend (who advocated for federal government pensions), Senator Huey Long (who wanted the government to confiscate and redistribute money from the wealthy) and novelist Upton Sinclair (whose 12-point plan for California included the issuance of script currency, a barter system and a state pension plan).

One of the major problems FDR saw in these and other radical calls to action was the undermining of the American capitalist system. Thus, when he introduced his Social Security program at the height of the Depression, many saw this action as an innovative,

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yet relatively conservative approach. His plan addressed the issue of economic security for retirees by establishing a system in which workers would contribute to their own future security in the form of taxes paid while they were employed.

Upon signing the Social Security Act in 1935, FDR stated, "We can never insure 100% of the population against 100% of the hazards and vicissitudes of life, but we have tried to frame a law which will give some measure of protection to the average citizen and to his family against the loss of a job and against poverty-ridden old age."

Although FDR was able to garner considerable support for Social Security from the American public, the Act did receive a significant amount of opposition as well, particularly within the business community. A major concern then, as now, was the program's mounting financial burden. Many also believed it to be unconstitutional, although the Supreme Court upheld the program in 1937 while ruling several other New Deal initiatives unconstitutional.

While the Social Security Act may not have been entirely successful in achieving Roosevelt's grand vision, it did establish several lasting programs. In addition to what we refer to today as Social Security, the law also included such features as the first national unemployment compensation program, grants to states for medical and welfare programs and aid to dependent children. Many of the other benefits we now associate with the program, including disability coverage and medical benefits, were not established until decades later. $

Kristin Aguilera is the Deputy Director of the Museum of American Finance and the editor of Financial History *magazine. This article was adapted from the blog post she wrote for Bloomberg entitled, "How Social Security Really Began." For more information on the history of social security, please visit www.socialsecurity.gov/history.*

Top: President Franklin Roosevelt signs the Social Security Act on August 14, 1935. Right: 1936 Social Security information poster, displayed in post offices and other public buildings.

Banking in Boston

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By the 1840s, the Provident's officers, especially the president and treasurer, placed increasing reliance on the investment board for leadership in investment decisions.

An early shift in the evolution at the Provident from benevolent institution to one run by professional management was an end to the restriction on the size of deposits. Led by the bank's officers, the board of trustees raised limits on deposits to $200,000 and then to $400,000, before removing all such size restrictions. As a result, the bank was opened to a larger group of potential wealthy depositors, who, in turn, provided the bank with more funds to use for investments.

As a small bank, the Provident could rely on Boston commercial banks to hold and invest its funds, but as the bank assets rose and investment alternatives grew, it sought new ways to invest its money. Focused on safe investments, it acquired bank stock and government bonds, and also made private loans. During the antebellum period, the Provident invested about a quarter to a third of its funds in local commercial bank stocks, known for their "reputation of conservatism and stability." Boston bank stocks did well, losing much less of their value in times of depression than bank stocks in other cities.

The Suffolk Bank, for instance, had an average annual dividend of 11.5% from the late 1810s, when it was established, through the Civil War, while its dividend declined somewhat to 8.3% in the decade following the conflict. It also invested about one-fifth to one-quarter (and occasionally more) of its assets in federal government bonds, and by the 1830s, bonds of both Boston and Massachusetts. The third area of investment was in private loans, which fluctuated between about one-half to two-thirds of all assets in a given year. At the Provident (and many other Boston intermediaries), these were almost always long-term loans, some made to commercial banks with no security, others made to businesses on the signatures of officers and guarantors, and increasingly to manufacturing companies on commercial paper.

Significantly, outside of Boston the practice of granting such personal loans was regarded as "extremely risky," and such loans were not made, again showing how Boston's heritage of shipping and industry shaped investment decisions in the city. During the 1840s, manufacturing loans to textile mills grew, becoming about one-quarter of the Provident's assets by the 1850s. By 1858, mortgage loans, which had constituted little of the investment total 20 years earlier, accounted for about 35% of the bank's assets, while bank stocks and government bonds declined proportionately. Interestingly, even after restrictions on savings banks' owning shares of railroads or public utility companies were withdrawn, the Provident found it more secure and profitable to provide those companies with loans rather than buy their stocks.

Some 30 years later in the early 1890s, the Provident's investment portfolio changed again, reflecting primarily sedate and presumably more secure local investments. Of its $35.6 million in assets, $7.3 million was invested in city and town bonds, $1.3 million in bank stock, $3.8 million in railroad bonds, $10.6 million in mortgage loans, $10.6 million in collateralized private loans and $2 million in miscellaneous items. Banks like the Provident were prohibited from charging more than 6% on loans as well as certain types of investment throughout most of the antebellum period, and were often limited to only investments in Massachusetts or New England — all restrictions that affected the postwar era as well. But combining a more specialized investment process and diversified investment portfolio, the Provident provides a good illustration of how a Boston intermediary made profitable investments in the 19th century. **$**

David Grayson Allen is a principal of Allen Associates, a historical consulting firm in Concord, Massachusetts, and the author of numerous books. This article was excerpted from his most recent book, Investment Management in Boston *(University of Massachusetts Press, in association with the Massachusetts Historical Society, 2015), with the permission of the publisher.*

Fourth Liberty Loan

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created by the bond in suit, went beyond the Congressional power." But this agreement would be symbolic in nature. The Court ultimately ruled that remitting to Perry his requested $16,931.25 as payment for $10,000 (face value) of debt "would appear to constitute, not a recoupment of loss in any proper sense, but an unjustified enrichment."

Bondholders would receive dollar for dollar repayment on the redemption of the Fourth Liberty Loan, despite the original gold exchange provision of the bond, and nothing more. Based on those original gold provisions, investors lost some $2.8 billion due to the depreciation of the dollar from its earlier value.

The Liberty Loans represent the birth of the modern Treasury bond market. In the 100 years since their first issuance, the United States debt has grown from a few million to over $18 trillion, along the way becoming the most important financial instrument on the planet next to the dollar itself. And throughout times of war, recession and political uncertainty, Treasury bonds have come to represent a bedrock of financial stability throughout the global economy. **$**

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HOW MUCH DO YOU KNOW ABOUT FINANCIAL HISTORY?

TRIVIA QUIZ

By Bob Shabazian

1. Who is quoted as saying, "in this world nothing can be said to be certain except death and taxes?"
2. What is the origin of the term "blue chip stock"?
3. What technology company recently replaced AT&T in the Dow Jones Industrial Average?
4. What do the terms "sawbuck," "double sawbuck" and "fin" have in common?
5. What made Robert J. Birnbaum's Wall Street career so unique?
6. An "inversion" refers to what corporate action?
7. Warren Buffett, who has headed Berkshire Hathaway for 50 years, is believed to be the second longest-serving chief executive of a US public company. Who is the longest-serving CEO?
8. What was the first bank on Wall Street?
9. Who was Wall Street's first insider trader?
10. Who said, "Don't try to buy at the bottom and sell at the top. It can't be done except by liars?"

1. Benjamin Franklin in 1789. **2.** It came from the game of poker, where a blue chip is considered the highest value. **3.** Apple Inc. **4.** All refer to US paper currency: sawbuck ($10 bill), double sawbuck ($20 bill) and fin ($5 bill). **5.** He was president of two major stock exchanges, first serving as president of the American Stock Exchange and later serving in the same capacity at the New York Stock Exchange. **6.** The merging or acquisition of a company in a foreign country with a lower tax rate, thus allowing money earned overseas to be attributed to that company's books without paying additional US taxes. **7.** Leslie Wexner, the founder, chairman and CEO of L Brands. He started his company in 1963 with a single store in Ohio called The Limited. **8.** The Bank of New York (on the site now occupied by the Museum of American Finance) **9.** William Duer, in 1792. **10.** Financier and presidential adviser Bernard Baruch.

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